Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

Page Denied

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

 STAT

PATOCKA, Antonín. Vnitrozemská plavba (Inland navigation). 135p. Praha, State Publ. House for Technical Literature, 1953.

STAT

***page 1: Titlepage, as above)

***page 2: This publication serves as a suitable synopsis of the problems in our inland navigation from the technical and operational point of view as well as in an organizational aspect.

It is meant for workers of out shipping firms, for transportation managers, for planners and workers in the transportation divisions of factories.

Read by: Jan Kohout, engineer.

Edited by: Miss Hana Jedlička, engineer.

Editorial office of transportation literature; responsible editor: Dr Zdeněk Münz.

** *page 3)

PREFACE

One of the advantages of planned economy is that from all the transportational branches it creates a single whole and that, for concrete tasks, it always selects the branch which is the most advantageous. We see it, for instance, with the Soviet transportation where works of transportation are distributed among the individual branches according to their suitability. Besides, shipping on the inland waterways has considerable tasks in satifying the transportational demands of the national economy.

In our country, we are gradually progressing towards the collective comprehension of transportation. Yet, indeed, shipping on the inland waterways is a branch of transportation which is not being utilized steadily enough. Even though this branch does not have as great an importance for our economy as it has in the Soviet Union, nevertheless a gradually widened communication network of navigable water courses will only raise the importance of this branch. And if we would not forget that the waterways, which are passing through the territory of our State, are enabling our economy to have advantageous and inexpensive transportational links with the peoples' democracies, with the Soviet Union and with the people of China, the problem of the full exploitation of the waterways becomes still more important.

A full exploitation of shipping on the inland waterways is hindered at present by a defective comprehension of the importance of this branch and by the mis -

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

trust of the transport workers, which is partly caused by the insufficient knowledge of the possibilities, of the technics and advantages of this branch. If we have to reach the point where we should fully exploit our waterways both for inner-state shipping and for transportation abroad, we must systematically acquaint our workers with the technics of transportation on the inland waterways, with its organization and management, and we must indicate the possibilities and the advantages which this branch offers.

The publication of Dr Patočka pursues therefore as its goal to present to the transportation public, and then chiefly to the transport workers, the basic knowledge about inland navigation and about the conditions of its exploitation. In his work, the author does not want to analyze in detail the various factors of the transportation procedure, but he wishes to acquaint the readers with the principles of the operation of navigation and with its possibilities. We are convinced that the book will fulfill its mission, and will make it possible to enlarge the share of shipping on the inland waterways in the total transportational work.

- * -

We ask the readers that they shall tell us their comments and critical remarks about this book. C r i t i c i s m h e l p s u s t o i m p r o v e o u r w o r k.

State Publishing House for Technical Literature

Editorial Office

Spálená 51, Praha II.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

*** page 4:blank)

*** page 5)

INTRODUCTION

From times immemorial, the water courses have been ways for transportation. Their importance fluctuated according to the contemporary status of technology, and according to the intensity of the exchange of commodities; yet the importance is still great at the present time. In a certain sense, navigation will always remain the most perfect branch of transportation, especially when we take into consideration the consumption of energy and the ratio of the loading weight to the own weight of the transportation device, the demand of workers and the possibility of mechanization. On the other hand however, navigation is exposed to influences which are limiting and disabling its operation. Such influences are the freezing, the fog, and the shortage of water. We may briefly characterize inland navigation as that branch of transportation which used to provide with advantage the transportation of huge amounts of commodities to great distances and at relatively slow speed.

The economic advantages of inland navigation are obvious from the following two series:

The first series makes a comparison of the traction force needed for the transportation of one ton of brutto load, which is:

on the shipping canal	1.0 Kg by a velocity of	5 Km/h
on the sea	2.7 Kg " " "	20 Km/h
om the railroad	4.0 Kg " " "	60 Km/h
on motor trucks	15.0 Kg " " "	40 Km/h
on aircraft	150.0 Kg " " "	150 Km/h.

The second series shows the work productivity; for in transportation work the productivity of one work-shift is the following:

in motor transport	138 abs.TKm (1)	280 gross TKm
on railroads	437 " "	1,200 " "
on artificial waterways	1300 " "	2,000 " "
on natural streams	1880 " "	2,800 " "
in maritime transport	16,600 " "	23 ,600 " "

(1)FOOTNOTE: Ton-kilometer (TKm) is the unit of transportational work carried out by moving one ton to a distance of one kilometer. An absolute ton-kilometer(Abs.TKm) is related to the weight of the load, while the gross ton-kilometer(Gr.TKm), in addition to the load, also includes the weight of the transportation device.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

In general, Czechoslovakia has a humble network of waterways, but it has the particular advantage that it rules the upper courses of two large navigable rivers, the Elba and the Odera, and that it is situated by the side of the Duna, which provide her on one hand a direct approach to the North Sea, the Baltic Sea and the Black Sea and then to the Soviet Union, to China, and the rest of the friendly States, on the other hand they provide advantageous transportational facilities with the other states through which those rivers are flowing.

Under the conditions of socialistic economy, the possibilities of a full exploitation of inland navigation are thoroughly different and better than they are in the capitalistic countries.

***p.6) 1. In a socialistic economy, the exploitation of inland navigation does not succumb to crises, and it is therefore better balanced than in the capitalistic states.

2. All productions, and thus the transportation means also, are in the hand of the workers, and they are used according to the principles of the economics of socialism, so that the higher obtainable private capitalistic exploiter's gain is no more decisive, but the consideration of economy only which for the navigation designs a leading place in the transportation of bulky merchandise to large distance.

3. A socialistic economy directs the development of the transportation branches as well as the routes of the transported substratum, and it guarantees -- which is unobtainable under the capitalism-- that the steadily increasing demands upon each transportation branch will fulfilled.

Moreover, collaboration of the transportation branches and their most economical exploitation is solved by plan, so that the capitalistic problem of the coordination of transportation, which remained unsolved under private ownership of the means of production and transportation, does no more exist. In the socialistic economy, railroad and navigation supplement each other appropriately, and nowhere do they stand against each other.

4. On the prototype of the U.S.S.R. we may see that, by a complicated planning of the water economy, the socialistic economy-- which is heading towards Communism-- may so thoroughly improve the waterways that not only does it do away with the earlier difficulties resulting from unequal river courses, small shipping depths and the like, but also even new, very efficient waterways come into being as a part of carrying out the Stalinian plans of the transformation of Nature. In this light, also the construction of the Odera-Duna Canal, or at least its first stage, the lengthen

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

ing of the Duna waterways toward the course of the March(:Morava) river, appears as soon realizable.

This publication has to present the fundamental notions on inland navigation to everybody who is occupied with the problems of the economy of water and transportation. It is only a narrow segment both of the whole field of economy, which we must grasp complexly(:in a general way), and of the pertinent expert disciplines,which must be elaborated in much more detail.

Because the book was submitted to composition before the reform of the valuta exchange, the data of values are still expressed in this publication according to the former exchange.

*** p.7)

HISTORICAL EVOLUTION OF INLAND NAVIGATION

* *

River transportation is probably the oldest branch of transportation in general. As OBRAZCOV indicates in his work (1), from time immemorial Man has been living on the banks of rivers, he has learned to transport on them the commodities, and he created the first vessels:-chiseled-out boats and rafts. The river, by itself alone, is an advantageous route for transportation, already therefore because it is natural, while,with other transportation branches, the roads of transportation must be built first, which requires a considerable outlay of expenses. A further

- - -FOOTNOTE 1): OBRAZCOV V.N. & SAULSKIJ F.S.: Transportation by water, air,and railroad by municipalities, and transportation by industrial establishments. Praha,Industr.Pub.House, 1952.

advantage is that, in river transportation, the transporting carriers may be as simple as possible, and that the river itself is providing the motive power for the downstream navigation. On the banks of large rivers large settlements arose, and connection between them was again procured by the river, and later on, in the 14th century, after the invention of the shipping locks, also by a whole system of waterways.

The beginning of capitalistic industrialization brought a complete revolution also to the river transportation which, with its large steamers and tugged boats, had been adjusting itself to the way of big-industrial production. The first steamer had been sailing on a river in the year 1807. A few years afterwards however, the transportation of commodities commenced on railroads which, under capitalistic economy, from the middle of the past century on, have remained the greatest enemy of inland navigation. At this time however, the wheeler and screw-propelled tugboats,

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

at the end of the past century increased with a Diesel motor on the vessel, have reached a technical perfection that enabled them to compete with railroad transportation.

In the Soviet Union the progress of river transportation proceded uncomparably quicker than in the capitalistic states. Thus, for instance, in the imperialistic America the profiteering interests of capitalistic proprietors of the railroad stocks are more prominent than to establish a division of labor as economical as possible between the transportation branches.

As far as our own country is concerned, Charles IV had already issued an order to remove from the Elba river the stones and rocks that formed obstacles to navigation. In the years 1548-1550, under Ferdinand I, the Vltava was regulated from Budweis(:České Budějovice) to Praha, and in the second half of the 17th century, under Ferdinand II, the river regulations was also carried out below Praha. The first shipping lock has been established in the twenties of the 18th century(GRUBER [2]) on the Vltava at Županovice and at Modran(:Modřany). However, the navigability of the Oltava has been already earlier maintained by means of dams with culverts for ships and rafts. From Budweis(:Budějovice) to Moldauthein(:Týn) ~~XXXsalt~~ was chiefly transported, and there it was reloaded upon rafts. In the 17th century it was possible to

FOOTNOTE 2): GRUBER Josef: Waterways and water transportation-maritime and inland. Praha, Merkur, 1902.

navigate from Praha as far as Hamburg;

*** p.8) chiefly cereals and timber, particularly architectural timber, were hauled. An obstacle consisted in the many fees collected along the route which the Congress of Wien in 1815 had succeeded in settling only by a d e c l a r a t i o n o f f r e e n a v i g a t i o n of the commercial vessels on rivers of international importance without fees. From the year 1841 on, passenger traffic has been carried out by steamships from Praha to Dresden and backwards, but, because the railroad was its great rival, once more this traffic had to stop in the year 1865. In 1882, the shipping of salt was discontinued from Budweis to Praha(where graphite was also transported), because navigation was unable to compete longer with the Praha - Budweis road that had been finished in 1871. Exactly opposite was the influence of the tariff politics of the German roads upon navigation, which caused that the export of our brown coal to Germany increased very quickly along the waterways.

On the Elba, ports had been constructed, namely several with railroads. The

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Dux - Bodenbach (Duchcov- Podmokly) Line has constructed a harbor at Rosawitz(:Rozbělesy) in 1857; the Aussig-Teplitz (Ústí n.L - Teplice) Line built a port at Aussig (:Ústí n.L.) in 1866; the Czech Northern Line built one at Tetschen(:Děčín), and the Austrian Northwestern Line built one at Laube(:Loubí) in 1879. Corresponding shipping concerns were also established. In the year 1889, the Buštěhrad Line established warehouses at Kralup(:Kralupy -na-Vltava); in 1895 the warehouses and port at Holeschowitz(:Praha-Holešovice) were finished, and by the end of the century the works on the canalization of the Vltava below Praha also made some progress.

T h e E L B A S H I P P I N G D O C U M E N T S, which carry out the decisions of the Congress of Wien related to free navigation(1822), encouraged the capitalistic type of founding activities. In the year 1822, the Praha Shipping Company was established which, without its own vessel park, had been carrying out transportation on chartered vessels of other shippers; only in 1857 did the company acquire own steamers. In Dresden, in the year 1836, the Elba Steamshipping Company was founded which, under the later assumed name of Saxonian-Czech Steamshipping Company, performed a whole century of passenger transportation on steamers on the Elba line. The above mentioned Praha Shipping Company was the basis of the Austrian Northwestern Steamship Company(newly formed in the year 1881) which again, by the decision of the American arbitrator in the sense of the Versailles Peace Treaty, became the nucleus of the vessel park of the Czechoslovakian Elba Shipping Joint Stock Company.

On the Duna, the most important was the First Duna Franchised Steamshipping Company, established in the year 1830, and the Hungarian River and Ocean Navigation Company, established in the year 1895. The Bavarians, Romanians and Russians, already by the end of the past century, had their own firms of Duna navigation. According to the Peace Treaty of Trianon, a part of the vessel parks of the Austrian and Hungarian companies was ceded to Czechoslovakia which then was managed by the State Management of the Duna Navigation, later converted into a company.

*** p.9) CZECHOSLOVAKIAN NAVIGATION ON THE ELBA, ODERA and DUNA

* *

1. T h e E L B A

Firms performing navigation on the Elba.-

The Czechoslovakian navigation on the Elba opened in the year 1922 with a vessel park that was allotted to Czechoslovakia from former Austrian and German prop-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

erties. The State brought this property into a new company, the Czechoslovakian Elbe Shipping Joint Stock Company in which, in addition to the State, the banking syndicate of the Industrial Bank, Merchant Bank, Praha Credit Bank, the Agrar Bank and the Legion Bank participated. The original stock capital of the Czechoslovakian Elpba Shipping Joint Stock Company was set at 125 million Czech crowns. The firm was recapitalized, however, and the stock capital was reduced therefore to 70 million Czech crowns.

Besids this company, operating the transport of cargoes on the entire international Elba-Vltava waterway, there was the Praha Steamship Company, providing passenger transportation from Praha to Stechowitz(Stechovice) and from Praha to Melnik (:Mělník), occasionally farther to Bodenbach(:Podmokel); then, the Tugboating, on the Vltava and the Elba, an organic supplement of the Czechoslovakian Elba Shipping Joint-Stock Company, since this firm used to provide the tugging of boats on the canalized sections of the Vltava and the Elba; and finally, the Vltava-Elba Transportation Company, providing chiefly dredging, transportation and dumping of the fluvial [redacted] gravel and sand. In addition to these firms, expressly capitalistic, navigation over the State boundaries used to be also carried out by private shippers, individuals mostly having but one barge whose crew frequently was composed of members of the skipper's family. The shippers mostly were of German nationality. The economical crisis in the thirties has considerably reduced their number which used to fluctuate around thirty. A peculiarity of the Elba navigation was the so-called " fruit navigation", carried out in the fall by means of small covered wooden barges, between the fruit-growing regions along the Elba in the Czechoslovakian Republic and Berlin, a navigation which worked under great pressure, namely not only had it to proceed speedily with the transportation of apples and pears downstream, but it had also speedily return the empty boats so that it would be possible to transport as much fruit as possible before the first freezing.

In its vessel park before the war, the Czechoslovakian Elba Shipping Joint Stock Company(the official abbreviation used for the marking of the vessels was CPSL) had 12 steam tugboats of about 10 000 HP, 2 passenger steamers, 6 cargo steamers with a gross tonnage of 2 300 T, 4 motorboats, 10 floating elevators, and 172 barges with a gross tonnage of 132 000 T. To this must be added the vessels which the State at its own expense and gave to the CPSL for operation and management, which was a kind of financial subvention. This includes 4 motor cargo vessels with a gross

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

tonnage of 2 300 T, and 5 motor tugboats of about 3 000 HP which meant technical improvement for the entire Elba fleet. The harbor service has been performed by 11 steamers and 43 ferry-boats of a total gross tonnage of 4 300 T.

*** p.10) The Praha Steamship Company had 11 passenger steamers. The Tugboating Company had 12 tugboats and 2 passenger steamers. The Vltava-Elba Transportation had 3 tugboats and 23 barges of a total gross tonnage of 3 000 T. Beside the Lanna Construction Stock Company, and the community of Praha there were still various private shippers possessing about 200 barges of a total gross tonnage of 29 000 T, or an average of 150 T per boat. Only a few of them had barges fit for long-distance transportation of bulk merchandise which, aside from the customs aspect and administrative regulations, would have been satisfactory both in size and in structure.

The most important factor in our foreign transportation remained, however, the Czechoslovakian Elba Steamshipping Joint Stock Company which at the time of the war did not fail to concentrate in its hand the entire Czechoslovakian transportation to foreign countries along the Elba a substantial part of which had been also provided by the German navigation.

After the Second World War, the shipping operation was reopened under the leadership of the Committee of National Administrator of the CSPL until the Law on National Transportation Enterprises established a single shipping firm, the Czechoslovakian Elba Navigation, and amalgamated with it, beside the property of the Czechoslovakian Elba Shipping Joint Stock Company and of the Tugboating Company on the Vltava and Elba Limited, also the Praha Steamship Company and the Vltava & Elba Transportation Company, Ltd. - Thus, the new firm which is using the abbreviation ~~ČSL~~ CPSL, in contrast to its capitalistic predecessor, also became the contractor for the passenger transportation and for inland navigation, especially for construction material. The data on the activities of this concern for the year 1948 are quoted below (p.11 of original book) (also on p.15), according to the Handbook of Navigation,[3]

- - -FOOTNOTE 3): Handbook of navigation 1938-1948. Czechoslovak Shipping Bureau in Praha. River navigation office in Pozsony (:Bratislava).-

and it can be valued as work of the Czechoslovakian Flag because for a cooperation with the navigation of the German Democratic Republic it came still later.

The considerably obsolete Czechoslovakian fleet on the Elba was rejuvenated by the construction of all-steel barges of two types, namely of 750 T and 1000 T of

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

gross tonnage altogether in our dockyards. As to the form of the ship's body, the model "Amanda", approved by the Hamburg Testing Station for Construction of Ships, was selected. The dimensions of the 1000-ton barge are 76.5m x 10.35m x 2.2 m, and the dimensions of the barge of 740 T gross tonnage are 67 m x 8.25 m x 2.2 m. Both barges have a draught of 190 cm at full cargo. These bargesXXXXX have less drag at towing, and less draught at equal cargo than the former barges; and moreover, they are solider. A great advantage for maintenance, repair and for the storage of the supplementary spare parts is also the gradual standardization of the type of the fleet. It seems that for the Elba navigation in general it will be more acceptable a larger, but not the largest type, with a total gross tonnage of about 850 T, whose average whole-year performance approaches the performance of the 1000-ton barge, and moreover it is less costly in investment and in operation.

Gradually it will be also necessary to supplement and to renovate the tug-boats which have suffered

***p.11) great losses by wartime incidents. It is however not clear today in technical respect which kind of propulsion is more advantageous for wheeler tugboats. For vessels with a screw-type driving mechanism it seems that this problem will be soon definitely resolved in favor of motor propulsion.

The Czechoslovakian Elba Navigation is an outstanding agency. The below cited summary is from the year 1937. The total score of the vessels registered in the Elba water region was 4630, with a total tonnage of 1,503,671 T. A part of this gross tonnage was automotive, the total capacity of the vessels was 233 500 HP. For the towing of vessels without self-propulsion 583 tugboats were available, with a capacity of 116 682 HP. In general, commodities were transported on the Elba in a total weight of 14.15 million tons. For an approximate review of the prewar distribution of the Elba tonnage among the largest firms the following table serves:

FIRM	MARK	TONNAGE
Czechoslovakian Elba Shipping Joint Stock Company, Praha	CPSL	140 000
Neue Deutsch-Böhmische Elbeschiffahrt A.G., Dresden (New German-Czech Elba Shipping Joint Stock Co.,)	NDBE	50 000
Neue Norddeutsche und Vereinigte Elbeschiffahrt A.G., Hamburg (New North Germand and United Elba Shipping Jt.Stock Co.)	NNVE	250 000

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(Table cont.) FIRM	MARK	TONNAGE
Schiffseigenergenossenschaft für Binnenschiffahrtsbetrieb G.m.b.H. Hamburg (Shipowners' Union for Inland Navigational Operation Ltd.)	SGH	200 000
Behncke & Meves, Hamburg	B&M	38 000

After the war, in Hamburg, occupied by the British, it did not come to any change in the firms. The shipping firms and the harbors of the German Democratic Republic have created the Deutsche Schiffahrts*- und Umschlagsbetriebszentrale(DSU) (German Navigation and Transloading Operational Central).

The following published data about the Elba passenger navigation refer to the year 1948. At that time, on the Praha-Stechowitz Line 612 548 persons were transported, on the Praha-Melnik Line 66 396 persons, and on the Aussig-Herrenskretschen (Ústí-Hrensko) Line 131 630 persons. This transportation was carried out by the Praha Steamship Company, amalgamated by the Law on National Transportation Firms(Chapt. 108 and Chapt.311/1948 Sb.) into the national firm of the Czechoslovakian Elba Navigation. Municipal and cooperative firms are carrying out recreational navigation on the Frain(Vranov) and Kninic dams, and on the Mach Lake. In the year 1948, on the Mach Lake these firms have transported 50 103 persons, on the Frain (:Vranov) dam
*** p.12)
50 407 persons, and on the Kninic dam, which is directly in the recreational area of Brünn(:Brno), 316 254 persons.

T h e d e v e l o p m e n t o f t h e s h i p p i n g r e g i m e o n t h e E l b a.- In the Middle Ages, the navigable streams were considered the property of the landlord, and navigation on the streams was looked upon as a convenient means of living. For the transported commodities one had to pay a river fee. Moreover, it was still necessary to pay admission fees (according to the size of the vessel.) The larger towns had a right to demand that the commodities be layed out for a definite time for sale, or that they be reloaded on vessels of their own shipping unions. These unions had rights as monopoly. The public authority attended to the collection of fees only, but it did not care (with the exception of a few enlightened monarchs) about the waterways. The relation between the fee for the use of any installation, and the obligation of that person who collected the fee for the maintenance and the improvement of that installation was entirely unknown. 4)

---FOOTNOTE 4): Dr Meřicka, J. Inland shipping rights. Praha, Czechosl. Shipping Magazine, 1934, p.17.

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

These different obstacles outlived the Middle Ages, and only the Congress of Wien, in the year 1815, tried its hand on doing away with the generalization of the order of the Treaty of Rastatt from the year 1803, which had guaranteed the freedom of navigation on the German section of the Rhine for the citizens of the contracting parties of the Treaty. As to the rivers, which were flowing through the various states or were forming their boundary lines, for all these states the freedom of navigation had to be valid, with access to the sea from the start of the navigable portions of these rivers. The collected fees were not to be increased, and their income was to be assessed for the benefit of navigation. Each state had the obligation to remove on its own territory the obstacles of shipping, and to maintain the footpath for the team of horses. For each stream a special board had been established which had elaborated fuller particulars of the regulations. Such a board, established for the Elba river, had worked out in the year 1821 the FIRST ELBA SHIPPING DOCUMENTS which were undersigned in Dresden on the 23rd day of June, 1821, and came into force at the beginning of the year 1822. The ELBA SHIPPING DOCUMENTS had been undersigned by the representatives of all states along the river's banks. According to it, freedom of navigation had been established(except for the "cabottage", i.e., the coastal navigation along the banks, within the state or between two states, which hereafter was also reserved as the right of the citizens of these states), and it had been settled that the Elba fees were not allowed to be raised. Such fees had been already much too high, since they had been reaching up to 70% of the total transportation expenses. Therefore, large quantities of merchandise had been transported on the Odera, on the Weser, and on the Rhine, and, after the inauguration of the railroad transportation, the high fees caused an almost complete destruction of navigation. 5)

***FOOTNOTE 5): PATOČKA, A. The Elba as the route of foreign trade. Praha, Vestnik MAP, 1935.

The ELBA SHIPPING DOCUMENTS used to distinguish two kinds of fee:- on the one hand, the Elba fee, collected for the goods; on the other hand, the admission fee, collected according to the tonnage of vessels. For ascertaining the inspection on the ship, and for its protection, the ELBA SHIPPING DOCUMENTS organized special Elba Customs Courts. For

*** p.13) the commander of the vessel a document of fitness was prescribed. The monopolization of navigation was explicitly forbidden.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

For the needed changes of the Elba Shipping Documents a R e v i s i n g B o a r d had been organized. Indeed, this had met already in the year 1824, but it had in vain discussed the reduction of the fees. Then, 20 years elapsed until the next meeting of the Board. This next meeting had been called together under pressure by the commercial and shipping circles, because ,on account of the competition of the railway transportation, navigation,with the then existing higher dues and fees, was facing a complete collapse. Saxonia, Anhalt, and Prussia had abolished the dues for the import and export, and the fees for their own vessels had been already abolished in the year 1833; after their example, the financial burden of navigation was to be completely abolished. The supplemental agreement, called ADDITIONAL DOCUMENTS, which the Revising Board had elaborated, came into force in the year 1844, and remained valid without changes until the year 1863. According to this, uniform SHIPPING POLICE REGULATIONS were worked out and proclaimed, and controlling commissions were organised which had to survey,by rides, the obstacles of shipping, to register them, and to submit the records to the participating governments for removal of the obstacles. The customs control had been simplified so that the admission fee was also included in the dues, and uniform rules had been established for the regulation of the Elba stream.

The riparian states took upon themselves the obligation that, on the Tetschen-Hamburg Line they would maintain a shipping depth of at least 94 cm, and the approved the controlling commissions as permanent organization. In the subsequent years, much futile discussion went on about the reduction of the Elba fees, because Mecklenburg and Hannover were owenere of very prosperous railroads and were afraid of a competition by the navigation on the Elba; only the 5th Revision Commission (Revisign Board) made,in the year 1863, a remarkable improvement that all fees had been united and collected at one place, namely at Wittenberg, whereas formerly they had been assessed and collected at 14 different places, and before the First Elba Documents, even at 34 places.[6] At the same time, the entire yield of the fees had

FOOTNOTE 6): Dr GRUBER Josef: On the waterways.Praha,Merkur,1903,p.35.

been determined by a fixed ratio so that the customs rates had to sink with the rising(advancing) transportation. Shortly thereupon, in the year 1870, the entire Elba fees had been abolished; thereafter, it had been permitted to collect fees after the use of the installation upon (for) assistance in navigation only. In the year 1894,

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Austria and Germany had proclaimed uniform POLICE REGULATIONS FOR THE NAVIGATION OF VESSELS AND RAFTS ON THE ELBA.

New arrangements were made after the First World War by the World Treaty of Versailles, according to which the NEW ELBA SHIPPING DOCUMENTS have been elaborated in the year 1922 which interpret the idea of international rivers and of the freedom of navigation so that freedom of navigation is offered to ALL states in general, whereas formerly it had been in force for those states only through which the rivers were flowing or whose borders were formed by the rivers. For international rivers were declared the Vltava from Praha to its inflow into the Elba, and the Elba from the inflow of the Vltava at Melnik(:Mělník) as far as the high sea. In the year 1931, the International Elba Commission, which had been founded according to the documents, made the decision that the international Elba waterway will end in Praha at the Vltava bridge across the Štvanice (a railroad viaduct).

*** p.14)

The composition of the Commission reflected the then existing conditions of power politics:- over the two representatives of Czechoslovakia, the four representatives of those German states which were situated along the Elba, the representatives of Great Britain, France, Italy, and Belgium had permanent control. The Commission met twice a year; it had a permanent secretariat in Dresden which prepared for the Commission the annual report on the conditions of navigability and shipping. From time to time, the Commission carried out an inspection of some section of the Elba stream.

The order of this NEW ELBA SHIPPING DOCUMENT included equal right for all states(not only for the riverside states) to conduct navigation along the Elba, complete freedom of transit, furthermore simplified customs regulation (the cargo of a vessel will not be searched, but the correctness of the customs papers will be), prohibition of discrimination both in fees and in the use of ports and the additional fees.

The Elba Commission possessed considerable jurisdiction. It supervised the good condition of navigability; it rendered decisions in grievances; it examined the authorization and height of dues and fees; it would decide as an appeal forum for the Elba Courts. The Commission could prohibit the construction of certain waterworks, should they seem to be of an injurious effect upon navigation.

In the FINAL PROTOCOL to this Elba Shipping Document it was determined that at least such levels of navigability must be maintained as they had been in 1914.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Certain District Courts were designated as Courts of Navigation, from the judgment of which it was possible to appeal either to the Highest Land Court (Supreme Court) or to the Elba Commission.

This condition lasted until the year 1936 when Germany ceased to recognize the Elba Commission; simultaneously however she assured Czechoslovakia that she is willing to reciprocally maintain the principle of the freedom of navigation. Even now, this principle is theoretically acknowledged on the Elba, excepting however the new borders between the German Democratic Republic and the British Sector, in which Hamburg is situated) occupied territory of Germany. This border between the German Democratic Republic and the British Sector, in which Hamburg is situated, cuts through the Elba at Wittenberg, runs to the Baltic Sea as far as east of Lübeck, so that even the Elba-Travsky Canal, connecting the lower Elba with the Baltic Sea, is under British control.

An ultimate arrangement can be expected at the World Treaty with Germany. A discussion concerning the closure of a shipping agreement between Czechoslovakia and the German Democratic Republic is ready to start. The friendly relations which chain together the two countries of peoples' democracies had made possible already earlier the smooth operation of transit and of neighborly transportations, and the cooperation of the shipping concerns of both states.

CARGO NAVIGATION ON THE ELBA.-

The data on the Elba freight navigation show that, after a natural slump caused by the unsettled technical and administrative conditions on the German line of the Elba after the war, this navigation is steadily expanding, and it is being already aimed not only at Hamburg but also even at Stettin. Its disposition according to ports and directions is given in the tabulation for the year 1948, quoted on p.16 (for comparison, the year 1938 is also quoted).

(see p.15) Should we compare the data in the tabulation, then we shall see that in some ports and transfer stations, for instance in Tetschen (: Děčín) and in Nestěmice, commodities are only unloaded, whereas in others the commodities are both unloaded and enloaded. In the year 1948, the entire unloading was larger by 260 thousand tons than the enloading. A more detailed analysis would show that the local domestic transportation is also increasing, especially the transportation of gravel, sand, and other construction material, then in some years even the transportation of coal.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

PORTS	UNLOADED IN THOUSANDS OF TONS		UNLOADED IN THOUSAND OF TONS		TURNOVER IN THOUSANDS OF TONS	
	1948	1938	1948	1938	1948	1938
Praha-Holeschowitz	16	61	146	81	162	142
The rest of ports of the Praha Distr.	170	181	183	457	353	638
Little Elba	87	72	71	27	158	99
Melnik	7	67	52	24	59	91
Lobositz	-	9	13	14	13	23
Aussig	56	263	86	79	142	342
Schönpriessen	48	96	30	4	78	100
Nestemice	-	-	98	126	98	126
Tetschen	-	-	29	34	29	34
Laube	39	108	129	101	168	209
Rest of ports betw. Melnik & Aussig	217	81	95	38	312	119
TOTAL	711	1403	979	1256	1690	2659

Raft navigation is considerably dropping; in the years 1938 to 1948 it declined from 103 656 T to 15 813 T.

As to the kinds of transported merchandise, the transportation of coal is predominating, also that of the construction substances, manure, salts, round timber, and sugar, over the so-called piece goods. In contrast to the period before the war, the transportation of oily seed on the Duna watwerway has shifted especially which is in relation with the fundamental change in the orientation of our foreign trade.

From the point of view of navigability the Vltava and the Elba can be divided into the following sections:

1) Budweis (:Budějovice) - Stechowitz(:Stěchovice): This line is navigable for barges up to 100 T gross tonnage; characteristic water reading is at Kamaik(:Kamyk).

2) Stechowitz(:Stěchovice) - Praha: By the construction of the locks in Wran (:Vrana) and in Stechowitz on this canalized section, enough stabilized shipping depth was obtained. The tract under the Wran lock has a shipping depth which varies according to the water level. It is the Lowest at Modřan, and it is considered therefore that additional canalization grade should be built under Modřan. Characteristic water reading is at Modřan.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

3) Praha - Schreckenstein (:Střekov): Completely canalized for a shipping depth of 210 cm, with construction of eleven locks. However, for large (high) water and before the freezing time, the locks are folded up, and then the shipping depth will depend upon the water level. Characteristic water reading is at Melnik, especially after folding the locks.

4) Schreckenstein(:Střekov) - State border line: The river is open, the shipping depth depends upon the water level. Characteristic reading is at Aussig(:Ústí nad Labe); its data, reduced by 50, are taken as the highest admissible gauge for definite water level. The Elba is entirely navigable for barges of a draught (gauge) of 180 cm at water levels higher than 80 plus 50 = 230 cm by the Aussig water reading. If the water would step above 550 cm, it is not possible any longer to float under a bridge, and the navigation must stop.

In Czechoslovakia we call the Melnik-Kolin section of the Elba the Middle or Little Elba. (By others, for Middle Elba is taken the Elba section located in Anhalt and Prussia whereas Saxonia regards the Czech section still as the Upper Elba).

This tract has been made navigable by canalization to a shipping depth of 210 cm. With regard to small transflows, this regulation was able to guarantee a minimal depth of 150 cm. The locks at Melnik and Obříství fold together.

The so-called Little Elba, i.e., the navigable section of the Elba above Mělník, extends as far as Kolín.

On the difficult Elba tract between Aussig(:Ústí) and Dresden, which in the summer months frequently has but a small shipping depth, the problem of tugboating was so resolved that a cable was placed at the bottom of the Elba, and the tugboat moved along the cable, and the barge's chief equipment was a drum from which the cable was winding off in this or that direction. The tugboat was propelled by a relatively weak steam engine. It permitted to have a slight draught and allowed to get tugging even then when all propeller-driven and wheeled tugboats had to stop operation on account of their excessive draught.

The cable(catenary) tugboat had, to be sure, its own disadvantages:- first of all, it could be compared to a monowheel railroad where two tugboats could neither meet nor pass; thereby the shipping operation was retarded. A still bigger delay was caused so that the cable, which had been staying for several decades in the water, often broke, and the torn ends often had to be also searched and connected. Therefore, at a small water level, the entire navigation stopped, while, at favorable water

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

levels, the cable steamer was in the way of the anyhow narrow shipping routes. The catenary tugboat had also the disadvantage that the cable moved in the river bed and picked up rocks lying at the bottom, which then obstructed the navigation.

Therefore, the cable(catenary)/tugboats were replaced by motorized wheeled steamer tugboats with small draught and small latitude (width) of the vessel trunk.

*** p.17) Even the cargo ships have been motorized, however. At first, motor barges were built of medium tonnage which were able to compete with railroad transportation as to speed of transportation. The rates of freight were substantially lower, because the operational expenses were less. These barges proved to be good, especially therefore because the Elba navigation used to transport relatively valuable and very much diversified substratums. On the Duna, motor ships proved to be favorable which were built so as to make them able to tug downstream and upstream additional tankers or other barges.

On the Czechoslovakian Elba-Vltava line of the international shipping ways which commences at the railway bridge across Stvanice, and runs as far as the open sea, the following more important ports and dams are located:- Praha-Holeschowitz, Kralup, Melnik, Lobositz(:Lovosice), Aussig (:Ústí n.L.), Schönpriesen (:Krásné Brezno), Rosewitz(:Rozbělesy), Tetschen(:Děcin), and Laube(:Loubí). All these ports have railroad connections, and they are fully equipped with cranes; port basins are constructed in Praha-Holeschowitz, Melnik, Aussig, and Rosewitz. Warehouses are available on the quays in Melnik, Aussig, Tetschen, Laube ,and in the ports of Praha-Holeschowitz and Melnik. Everywhere there are also areas suitable for open dumping.

OUTLINE OF KILOMETER READING OF INTERNATIONAL ELBA LINE IN CZECHOSLOVAKIA

Melnik (Mělník)	0 - 1	Nestemice	76
Raudnitz(:Roudnice)	27	Rosewitz(Rozbělesy)	94
Lobositz(:Lovosice)	50	Tetschen(:Děcín)	96
Aussig (:Ústí n.L.)	71	Laube(:Loubí)	98
Schönpriesen(:Krásné Brezno)	74	Border line	108

OUTLINE OF THE KILOMETER READING OF THE GERMAN ELBA

State border line	0	Pirna	33-36
Bad Schandau	10	Dresden	56 - 60

(over)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(cont. OUTLINE OF KILOMETER READING OF GERMAN ELBA)

Riesa	107 - 109	Tangermünde	388
Mühlberg	127	Wittenberg	454
Torgau	154	Lenzen	484
Wittemberg	214	Dömitz	504
Rosslau	258	Boizenburg	558
Wallwitzhafen	260	Lauenburg	569
Aken	277	Geesthacht	585
Barby	295	Hamburg	615 - 639
Schönebeck	312	Harburg	625
Magdeburg	326 - 333	Cuxhaven	724

U t i l i z a t i o n o f t h e E l b a w a t e r w a y.- The Elba waterway is not being used in an even balance. The monthly rhythm of the two good average years of 1933 and 1935 when, in the summer months and at the beginning of the fall there had been a period of a small shipping depth on the Elba, is given in the following tabulation which indicates the absolute and relative figures of the amounts of the transported commodities:

MONTH	1933 AMOUNT IN 1000-s of T	1933 SHARE IN % monthly	1933 SHARE IN % quarterly	1935 AMOUNT IN 1000-s of T	1935 SHARE IN % monthly	1935 SHARE IN % quarterly
January	41	3.3		40	3.5	
February	56	4.4	16.3	41	3.6	15.0
March	110	8.6		88	7.9	
April	125	9.9		132	11.8	
May	155	12.3	35.8	129	11.5	34.0
June	171	13.6		120	10.7	
July	129	10.3		74	6.6	
August	100	7.9	25.9	32	2.8	14.7
September	97	7.7		59	5.3	
October	113	8.9		113	10.0	
November	141	11.2	22.0	185	16.3	36.3
December	24	1.9		113	10.0	
TOTAL	1262	100.0	100.0	1126	100.0	100.0

From the tabulation it is apparent that there was a slow growth in the transportation at the beginning of the year, large transportation in the second and

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the fourth quarters(which may be of course prematurely finished because of the rapid December freezing), and irregular transportation in the third quarter, dependent upon the sufficiency of water. The question of how much an influence has the period of low water-level upon the reliability of waterways, upon the injuries to the vessels, upon the non-utilization of the vessel parks in way of runs and tonnage, we cannot discuss here. Small improvement may be obtained by the big dams on the Vltava(Lipno, Slapy) and on its contributaries, a substantial improvement should be obtained by the continuation of the canalization of the Elba below Aussig(Ústí) where two grades are projected on the Czechoslovakian tract, and then a further grade on the German tract.

*** p.19)

The great losses which are caused in our economy by the periodic phases of aridity and the resulting insufficient shipping depths which may also cause (as in the year 1947) a complete stoppage in navigation for several months on the open Elba and Odera, led to the examination of all possibilities for a maximum exploitation of navigation at a period of time when the Elba and the Odera are fully navigable. These efforts, supported by the Ministry of Foreign Trade, led to a systematic assurance of the export and import substratums for the time of open navigation, even though, before the opening of navigation, it would have been necessary to establish temporary dumping in the ports.

2. The ODER

Firms of the Odera navigation.- Before the war, navigation on the Odera river used to be carried out by the Czechoslovakian Odera Shipping Joint Stock Company (stock capital: 10 million Czech crowns), established by a contract of the State with the Witkowitz(:Vitkovice) Mining and Smelting Company and with the Mining and Smelting in Praha in the year 1924, and, in operational association with it, the Ostreederei, established as a similar founders' concern. Many German firms were also carrying out navigation on the Odera, of which the largest were the Schlesische Dampfer-Compagnie- Berliner Lloyd(:Silesian Steamship Comp.-Berlin Lloyd) and Caesar Wollheim; and ,beside these, there were still some six individual shippers.

Generally, in the year 1937, in the water region of the Odera, there were 3,274 vessels registered, with a total gross tonnage of 982 669 T, and 361 tugboats, with a capacity of 63 216 HP. Some of the barges were motorized and had a capacity of 80 312 HP. (The disappearing part of express steamers is also included in this).

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

In the year 1936, a total of 7.7 million tons of goods was transported on the Odera, and the work-performance in ton-kilometers amounted to 2.300 millions.

Before the war, the most important firms of the Odera navigation had been equipped with tonnage as follows:

FIRM	ABBREV.	TONNAGE
Czechoslovakian Odera Shipping Joint Stock Comp., Mährisch-Ostrau	ČPSO	35 000
Ostreederei G.m.b.H., Stettin	OR	2 500
Schlesische Dampfer-Compagnie-Berliner Lloyd A.G., Berlin	SDC - BL	190 000
Caesar WOLLHEIM, Pozsony(:Bratislava)	C.W.	50 000
J.Schalscha Reedergi G.m.b.H., Pozsony	J.Sch.	12 400

* * *p.20) After the war, civilian navigation on the Odera opened in the year 1947, namely for Polish vessels by the firm Polish Odera Navigation (:Polska zegluga Odrzanska), and for Czechoslovakian vessel in the year 1948 by the Polish firm Czechoslovakian Navigation on the Odera (Czechoslowacka zegluga na Odrze) whose management was in the hand of the Czechoslovakian Odera Navigation Ltd., in Ostrau. Further cooperation will occur soon after the closing of the World Treaty with Germany whose northeastern border extends to the lower run of the Odera. Our earlier position in regard to the Odera was chiefly based upon the World Treaty of Versailles whose regulation, of course, did not refer to the new, peoples' democracy of Poland. The Polish State takes the Odera as Polish national river.

Post-war data on transportation along the Odera have not been published. In the year 1938 the Czechoslovakian Odera Navigation had transported 206 316 T upstream, of which 176 095 T came from Stettin, and 21 775 T came from Hamburg. It further transported a total of 424 763 T downstream, of which 347 052 T came from Kosel, 34 571 T from Malčic, and 22 703 T from Pozsony(:Bratislava). To tell the truth, however, there had been transported, for the Czechoslovakian economy, only 120 000 T upstream, of which 116 000 T were iron ore; and not exactly 2 000 T downstream, whereas all the rest of the cargo had not been of Czechoslovakian origin, nor was it destined for Czechoslovakia.

Moreover, up to the year 1952, Soviet navigation and, below the mouth of the German canals, also German navigation (Deutsche Schiffahrts- und Umschlagbetriebszentrale) have been operating. Repatriations, revindications, and the removal of wartime occupation quickly increased the Polish fleet on the Odera, and , as to

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

organization, it united with another firm, established for the Vistula, into a single company in the year 1950, under the name Polish Inland Navigation(Polska zegluga środlandowa), with headquarters in Warszawa. The vessel park of the Polish Inland Navigation is built on the basis of scientific research on the most advantageous forms of vessel body and propeller screw,carried out in a research institution. Poland gives standardized barges and tugboats, exclusively propelled by screw, to build at a large scale. It seems that,--- beside the type of the single-screw tugboat of 250 HP, with a draught of 1.30 m, for the canalized Odera--- they succeeded also in preparing two-screw tugboats of 500 HP,with a draught of only 1.00 m for the regulated Odera(the efficiency of the screw is better than the efficiency of the wheel).

The affairs related to the shipping way on the Odera and the affairs of the Odera navigation are subject to the Polish Ministry of Navigation which is joint for maritime and river navigation.

W a t e r r e g i m e o n t h e O d e r a .- From the point of view of navigation we may subdivide the Odera into four sections:

1) The first section is the tract from the mouth of the Oppa (:Opavice) river to Kosel, which is established for navigabilization either directly or by a side channel which would extend the navigable waterway as far as our territory,to the Ostrau industrial district. It is not exactly 100 Km long.

2) The second section is formed by the canalized tract from Kosel to Rendzin, about 150 Km long, navigable for vessels of about 650 T tonnage. From this tract,

***p.21) right at its beginning below Kosel, the Gleiwitz Canal (:Hlivicky) branches off which was constructed for vessels of 1000 T tonnage. The canalization of the Odera is obtained by 22 locks. Some locks are folding, and because at high waters and before winter they fold up, thereby they shorten to some extent the navigation period upstream on the open Odera. At this section, ports are at Kosel, Oppeln (:Opole) and Breslau (:Wroclaw).

3) The third section lies between Rendzin (Km 255) and Küstriń (:Kostrzyn)(Km 615). Here, for a distance of 360 Km, the Odera is flowing as a regulated river which has occasional shortage of water. Here,the chief ports are at Maloszyn, Scinawa, Glogau (:Glogów), Neusalz (: Nowa Sól), Cigacice, Krosno, Slubice(against Frankfurt a.d.O.) and Küstrin (:Kostrzyn). Below the mouth of the Lausitz-Neisse,

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

flowing in from the left bank, the Odera-Spree Canal branches off at Km 550 toward Berlin, which canal has another mouth at Km 577 for downstream navigation.

4) The fourth section, below the mouth of the Warthe (:Warta) on the right side, is an efficient waterway from Küstrin (:Kostrzyn)(Km 615) as far as its mouth to the Baltic Sea. As a rule,however, only the tract to Stettin(Km 734) is taken into consideration so that the section runs about a length of 120 Km, which, from Km 664 — where the Winawsky Canal joins from the direction of Berlin — is doubled into the Eastern and Western Odera that join below Stettin. Below Stettin, the banks of the Odera are widening into the Stettin Bay (:Stettiner Haff), blocked by two islands between which the Swinemünde (:Świnoujście)shipping route runs for seagoing vessels to the open sea.

The Stettin Bay's route is also important for riparian navigation, since in calm weather it is possible to reach a few places on the shore of the Baltic Sea even with the river barges. This route is mainly utilized by German and Soviet vessels for communication with the Baltic ports of the German Peoples' Republic. This route is however also important for us, because the Stettin harbor is technically not accessible by navigation for vessels larger than 8000 Br tons,when loaded to full draught. Swinemünde is a place where such vessels are relieved at importation, or are additionally loaded at exportation. Moreover, a supplying coal base is organized here, and therefore the barges which bring coal from Kosel and Gleiwitz(:Gliwice) or the barges designated for carrying off ores, make a detour somewhere above Stettin to the Swinemünde shipping route,marked out in the Stettin Bay. In poor weather, however, the way is risky for the river barges.

From this division of the Odera and from its water regime, some peculiarities results also in its operation. So far as the year is not exceptionally dry, the canalization of the Kosel(Gleiwitz)-Rendzin tract guarantees sufficient shipping depth. In contrast, the open Odera, below Rendzin, is very frequently exposed to long periods of low water when navigation is entirely impossible, or it is uneconomical for the small draught, and then also for the little exploitation of the barges.

To make it possible that the precipitation water of the Odera basin be better economized, and large water be detained, and that in this way the acquired water supply could increase the water level in time of low water, valley dams and valley reservoirs had been built on its stream.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

sm. p.22) The best known are the Ottmachau(:Odmuchów) and the Camenz (:Kamience) on the Glatzer-Neisse, a left-bank contributary of the Odera, and on a right-bank contributary called the Little Panvy where the Turawa reservoir is. The mentioned rivers empty into the canalized tract of the Odera. Into the open Odera, between Rendzin and the mouth of the Warthe (:Varta)(with the Küstrin) flow the rivers Bobr (with reservoirs at Pilichowitz and Zlotkin), the Baryć, and the Obra. The Odera navigation worked out a peculiar method for the utilization of these water supplies:- at the time of low water on other streams, the transflow of let-out extra water is increased so that the admissible draughts would not sink too quickly, then permanently;.On the Odera, with its present relatively small traffic, even with a sinking water level, with relatively well-loaded barges we will get the entire canalized tract from Kosel to Rendzin as well as the section between Küstrin and Stettin. The decisive section of Rendzin-Küstrin can be conquered with letting out concentrated waves of extra water for some days during which period the congregated and economically loaded barges will get across the critical section downstream and upstream. These shock-like expeditions have not yet caused larger inconveniences; nevertheless, they are not satisfactory since they do not guarantee a regular and continuous transportation.

The Polish shipping administration is keeping itself busy with a study of steady and continuous transportation, both by lesser draught and by simultaneous speeding up of the circulation of vessels which could be achieved by the introduction of night navigation.

The division of the Odera into a canalized and a regulated section, from Rendzin to Küstrin and from Küstrin to Stettin, has considerable transportational significance. On the canalized tract, tugboating is carried out with smaller, screw-driven tugboats, since there is a shipping depth of 150 cm, except at periods of extraordinarily unfavorable water levels. On the regulated section below Rendzin, the majority of barges will float by their own weight. Upstream tugboating is procured by wheeled tugboats because, due to the small shipping depth, it is frequently impossible to use screw-driven tugboats. The averagely powered tugboats of 400-600 HP are towing here 4-6 loaded barges. On the third section, below Küstrin, beyond the inflow of the Warthe, the shipping depths are already sufficient, and the slope is not exactly 10 to 1000 only so that up to 12 loaded barges may hang up to tugboats of 1000 HP.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

The freezing on the Odera lasts 60-90 days. The transportation capacity of the Odera is estimated at 5 million tons. The double may be achieved on the entire Odera communication network, especially with added transportation to Berlin. The total barge tonnage on the Odera has reached 1 million tons before the war. The actual level is substantially lower inspite of the fact that the Polish fleet is energetically built up. However, the indexes of exploitation of the tonnage of vessels are in all cases higher than in the prewar years.

3. THE DUNA

Importance of the Duna.- Before the war, this great and excellent waterway, navigable for 1000-ton barges for more than 2000 kilometers above its emptying into the Black Sea,

aaa p.23) had been the chief communication way of the States along the Duna. A large number of the states that are crossed through by the Duna or whose borders are formed by this river, had granted many interstate agreements, which made navigation possible. Moreover, it led to the operation of navigation by firms strong in capital which have concentrated tugging force and barge gross-tonnage and, to a considerable degree, frequently even the substratums. The situation of Romania along the Duna has predestinated/predestined the Duna navigation for the transportation of . . . .(ropy?) and its products by means of special tanker vessels. The rest of the Duna substratum also had a bulky character:- downstream was transported coal, coke, industrial products, and upstream--- grain, ores, corn, fruits. The cereal surplus of the Duna-side states has been also carried out on the Duna, and transferred to ocean-going vessels in Galaţi, Braila, and Sulina. The difficulties which the Duna used to inflict upon navigation by blocking its mouth with washed-away debris, led to the creation of the so-called European Duna Commission, which attended to the navigability of the Duna below Braila, and kept in repair the enviromments of the Sulina branch especially, enabling the approach for ocean-going vessels to the lower Duna as far as Galaţi and Braila.

After the First World War, the conditions in the Duna-side countries were adjusted by the Peace Treaty of Trianon, and, so far as Germany is concerned, also by the Versailles Agreement. For the maintenance and repair of the mouth of the Duna, the European Duna Commission was left, composed of the representatives of Anglia, France, and Italy.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The Duna, from Braila upstream as far as the German Ulm, has been declared international and subordinated to the management of the International Duna Commission, with headquarters in Vidin. In this Commission, the influences of the western capitalistic states were strong and actually decisive.

After the Second WorldWar, thanks to the authoritative and wise politics of the Soviet Union, free navigation was secured by the Duna International Convention on the Regime of Duna Navigation, signed in Beograd in the year 1948. According to this agreement the Joint Duna Commission was established in which, however, the geographically foreign states were not included, i.e., France, England and finally the United States of America which all have been demanding a part in the commission. The Soviet Union, below the mouth of the Pruth, became one of the Duna-side states, and the importance of the Duna as a transportation way has substantially increased. The exchange of goods between the U.S.S.R. and the lands of the peoples' democracies, and between these countries reciprocally, is growing year after year. The Duna was going to be, constantly more clearly, also a way to the sea and to the overseas regions. Hungary had made the first experiment concerning overseas navigation with motor ships which would have been swimming out from Budapest and would have been serving the ports of the Near East, from Turkey to Egypt. After this war, however, it became obvious that the Duna and the Black Sea might become also the points of departure of long-distance navigation, chiefly to India, Australia and China. To this enlarged task of connecting the Duna with the World Seas the magnificent Romanian construction of a canal answers, too, which ,between Cernavoda and Constanţa, will connect the Duna with the Black Sea through a way that is 300 Km shorter. The mouth of the canal will be north of Constanţa so that

*** p.24) occasion is here to build out the new modern port of Midia. In addition, the Duna is also a connecting way between the peoples' democracies of the Duna-side countries and Albania.

Through large traffic on the Duna, which means large exploitation of all vessels in the upstream transportation, the Duna is economically at the beginning of its development only. Beside its transportation function, the Duna may be also used as a source of energy. Under the capitalism, no thought was given to the realization of such daring ideas as for instance the project of the Czech engineer Professor Smrčka for the construction of a hydroelectric plant in the Vaskapu. This electric

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

plant could have produced so much electric energy that there would not have been a market for it, and therefore the plan was not carried out. Learning from the Soviet Union, the states of the peoples' democracies are raising raw-material and industrial bases, and they are already planning bold water works. Two water works are getting a more concrete shape, namely the Czechoslovakian below Pozsony, and the Hungarian below the mouth of the Ipoly.

It stands to reason that the Second World War and the new political settlements which enabled the victory of the Red Army over Fascist Germany was not survived by the European Duna Commission either, which had already rather degenerated into a collector of the fees than being the maintainer of the navigability of the Duna mouth. The new Convention about the regime of Navigation on the Duna has determined that where for the maintenance of the navigability of the Duna the particular circumstances require larger expenses than they are reasonably expectable from the river-side states, these states will create a special riparian administration, authorized by the execution of the navigabilizational and maintenance works with the right of collecting appropriate fees. The following administrations have been already organized:- the Romanian-Soviet, for the maintenance of the navigability of the Duna mouth; and the Romanian-Jugoslave, for the section of the cataracts and the Vaskapu(Iron Gate). The foundation of another, a third, Czechoslovakian-Hungarian administration, for the ford section of the upper Duna, has been already approved by the Duna Commission.

Navigationally, the Duna can be roughly divided into four sections, namely the Upper Duna, the Middle Duna, the tract of the cataracts, and the Lower Duna. The boundary line between the upper and the middle stream of the Duna is formed by the breakage of the slope of the Duna channel near Gönyü, which is the cause of the sedimentation of the navigable channel and of the formation of the gravel bar in the forded section of Rajka(Km 1850) - Gönyü(Km 1790). There, the quickly flowing mountain river, fully navigable from Regensburg, i.e., 2379 Km from its emptying, is crossing over into the lowland. Near Pozsony, two branches are diverging from the main stream, forming the Little and the Great Csalóköz(Žitný ostrov). The Great Csalóköz (:Velký Žitný) delimits the so-called Little Duna, which empties into the Duna, jointly with the Vág (:Váh), near Komárom (Komárn). The Little Duna is considered a possible shipping way in case the main stream of the Duna would be utilized for energetic purposes. The quite character of the middle stream of the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Duna continues for 742 Km as far as the Moldava where the Duna tempestuously passes through the arch of the Southern Kárpáts, and forms the navigationally difficult 119 Km-long section of the cataracts and the Vaskapu(:Iron Gate). Here, the shipping way had to be broken

*** p.25) into rocks, the operation of navigation is strictly regulated, it is necessary to divide the towed trail of vessels upstream, to offer the tugboats a relay of horses, and by similar means(for instance by towing the railroad in the Vaskapu) to overcome the violent stream of the Duna. After overcoming these natural obstacles, the Duna would reach its lower course at the fertile lowlands through which it runs in a large detour in Romania toward its mouth. Practically, the Lower Duna is still divided into a section from the cataracts to Braila, a distance of 760 Km, and a maritime section from Braila to the mouth, a length of 170 Km.

This division has a great significance for operations. While a tugboat on the lower Duna is towing up to 14 loaded barges, in the Vaskapu it must have to hang on one only, and on the upper Duna, it will tow 3-4 barges.

By means of the arrangements which have been performed in the cataracts, a permanently perfect navigability has not been successfully obtained. At lesser water levels, in the interest of the safety of navigation, it is therefore permitted to load up to the highest by the so-called "criterion" which is established according to the water-reading ar Drenkova. For the tract of the cataracts, an obligatory pilotage is also prescribed.

The international waterway of the Duna river is supplementing the national waterways which on one hand are the navigable contributaries, especially the Tisza, the Dráva, and Száva, on the other hand the artificial canals, and so the network of waterways is nearly 5.000 Km in length in the Duna region. It is reckoned with making further rivers navigable, especially the Romanian(former Hungarian) rivers of Szamos, Maros, and Olt. Of the projected canals, greater significance must come, beside the so-called Romanian Cernavoda-Constanţa Canal, also to the Hungarian Canal from the Duna to the Balaton Lake, and between Budapest and the Tisza, in Jugoslavia between the Tisza and the Duna, since the Tisza empties into the Duna above Belgrad. In our country, there is the Odera-Duna Canal, and in Germany the Rhine-Main-Duna Canal.

It should be remembered that the connection of the Duna through the Main is already largely created by the King Ludwig Kanal, which empties near Kelheim, and is navigable for small motor vessels and barges up to 300 tons.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

These vessels, however, travel till Regensburg only where their load is transferred to normal, more economical Duna barges, with a tonnage of 650 to 1000 tons. According to the German project, the Rhine -Duna waterway has to be constructed for barges with a tonnage of 1000 - 1200 T.

After the First World War, the Duna Commission standardized the kilometer reading(the stations) of the Duna. Uniform regulation for the shipping police was also issued. The New Duna Commission continues with the unification work; a basic regulation of navigation was worked out according to which the riparian administrations and the riverside states have issued closer and more detailed orders.

From the basic regulations, the most essential order for navigation is that the marking of the shipping route, either afloat or placed on land, must be maintained from the departure of the ice on to the time of freezing, which means continuously; that they must be provided with light so that vessels floating during the night could be guided by them.

*** p.26) Continuous operation of the Duna navigation can increase its performance by at least 25% and it can thus quicken the circulation of commodities.

The Vág(:Váh)-- which flows into the Duna below Komárom, jointly with the so-called Little Duna(the branch of the Duna which diverges near Pozsony and flows around the Great Csalóköz/:Velký Žitný/)--- under favorable conditions is navigable for smaller vessels for some tens of kilometers upstream. Timber is floated on it; today, however, it is utilized chiefly for gaining electric energy by means of the cascade hydroelectric works whose sluices are built as lateral canals. Indeed, if it should open to navigation, it can be supplemented with proper locks for ships.

The kilometer marking is made upstream.

Since the Vág-side is an environment of quickly growing industry, the project that the Vág be made navigable from Komárom as far as Zsolna(:Žilina) should not be rejected in advance. For the balancing of the water flows the large Árva dam is of help. Several tens of Km of waterway are also ready at the present time in the form of the inflow and outflow channels of the hydroelectric plants. With the Vág, the assumptions are that the waterway will be utilized for the transportation of goods in both directions, which has great significance for the reduction of self-expenses.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The Czechoslovakian navigation on the Duna.- It opened in the year 1922 by the Directorate of the Czechoslovakian State Navigation which for the navigation provided the vessel parks that were allotted to Czechoslovakia from the former financial estate of the German, Austrian, and Hungarian navigation. Only in the year 1924 could the Czechoslovakian Duna Shipping Joint Stock Company be established whose stock capital was issued by the State as equivalent of the brought-in fleet, and by a bank consortium similar in composition to the Elba Company. The stock capital had been fixed at the height of 70 million Czech crowns. This company had been practically the lone carrier of the Czechoslovakian flag in the commercial navigation on the Duna. Before the war, in the operation by the State, two cargo motor vessels, with a tonnage of 1000 T each, and three motor tugboats were built. Its own vessel park included two passenger-carrier steamers, four cargo steamers of 2000 T tonnage, four motor freighters of 1860 T tonnage, one motor tugboat, 10 steamer tugboats, and 115 barges with a tonnage of 66,000 T.

The originally seized vessel park has been gradually supplemented and modernized. First of all, for the solution of the complicated technical problems of transfer, the rotation of the motor was placed upon the spade-wheel of the first motor wheeled tugboat. Then, according to this prototype, two similar tugboats were put into use on the Elba, and one Duna steamer tugboat was rebuilt for motor propulsion.

In addition to a small draught, these vessels have a large action radius (with 40 T of naphtha they have a draught almost exactly 1 m); they are always ready to operation; they lend themselves to utilization even at the smallest shipping depth and their crew of mechanics has not to be very large. Two Diesel motors also guarantee, in addition to a capacity of 1000 HP, clean and easy working environments. The large space needed

*** p.27) for the placement of the adjoining mechanisms which on the steamers would be occupied by boilers and magazines for the operational coal, here are free for the lodging of the crew. Soon afterwards, motor tankers were also built of 500 T tonnage, and with a capacity of 1000 HP, which would enable them also to tow, at a rather quick run, 2-3 additional tankers. The speed, without the towage, but with full load, used to reach about 18 Km per hour, and with a trail of three tanker barges at 800 T of cargo, 12 Km per hour only. The newly built tanker barges have a tonnage of 840 T; contrary to the original type of 650 T, the newly built tow-barges ma

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

were built much bigger, according to the regime of the rivers and the weight of the substratum, namely first at 675 T, then at 725 T, and finally(after the war) at full 1000 tons.

After the war, the situation on the Duna was more confused, which was partly caused by the wartime battles that were decided along the Duna, partly by the divergent spheres of interest. Thus, for instance, barges were returned to Czechoslovakia from the seizure by the American Occupation Army as late ase the year 1947.

The shipping route of the Duna was mined at many places, barricaded by collapsed bridges, by submerged vessels, and the like. Nevertheless, it was quickly put into order, and all the Czechoslovakian vessels --- including the cargo barges in the State management --- were organized into a national concern called Czechoslovakian Duna Navigation, established in the year 1948. For the present, the CSPD, as its official abbreviation reads, transports commodities only, because there are no vessels available for the transportation of travellers (if we omit counting the crossing of the river between Pozsony and Pozsonyligetfalu/:Petržalka). The transportation of commodities consists of three components:- transportation of mineral oils, transportation of bulk goods, and rapid transportation of piece-meal goods(parcels). This rapid transportation raised demands for our foreign commerce, which,according to the politico-economical rules of procedure, is making use chiefly of all the transportation ways leading to countries of the peoples' democracies. In cooperation with the Bulgarian, Soviet,and Romanian marine navigation, a new road has opened for our goods to the Near East and to Albania, formerly traditionally leading through Trieste. With the exploitation of this way, the overseas goods, chiefly parcel goods, are transferred at Stalin(formerly Varna), and a railroad would procure communication with the Duna port of Ruse(:Ruschule). After overcoming the initial organizational shortcomings and the pioneering difficulties, this road will be rapid and inexpensive, and it will serve the economy of the peoples' democracies. For its marking the abbreviation DUNSTAL(:Duna-Stalin) is used.

Czechoslovakian foreign spediteurs on the maritime market had repeatedly succeeded in chartering(hiring) capitalistic vessels, too, which, with a load for Czechoslovakia, were running to the lower Duna, and in Galaţi or Braila they unloaded their goods to the Duna barges, respectively onloaded our export parcels. With a closer cooperation between the Duna-side states, and with the deepening of the organiza-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

tion of the international shipping bureau, this way --formerly used only for the bulk cargo of agricultural products of Bulgaria and Romania -- is also of first--rate importance for the export of the semi-manufactured goods and of the ready articles of the Czechoslovakian industry, and for the import of overseas raw materials. The importance

*** p.28) of this way has also advanced by the direct participation of Czechoslovakia in the operation of ovserseas navigation.

Of course, such a development calls for a rising demand not only upon the quality but also on the extent of the capacity and equipment of the Black Sea, and of the Duna ports and Duna navigation. Such increased capacities are obtainable if the Duna vessels of the peoples' democratic states would be managed as a whole. It is not necessary for this purpose that a single shipping concern be perhaps founded in which all the existing concerns would merge. It will do to reach gradually a type of organized cooperation which is expressed by the idea of "operational partnership", and toward which, even though by other ways, all the Duna navigation of the friendly states has been necessarily drifting, since it would radically resolve the problems of economics, both operationally and administratively.

The capitalistic companies had been acquainted with such operational partnerships which however were controlled by the inclination to get larger profits. The operational partnership of the socialistic concerns is a staged developmental form of cooperation to the purpose that all hidden reserves be mobilized and the performance be also increased. The aiming and the ultimate goal are then wholly different.

We are seeing indications of a transportation partnership especially in the agreements for technical cooperation, for common tariff, and for the division of substratums. Discussions of some friendly states are also leading to the same goal, namely that, at all places of the Duna which are subject to a single state, all administrative acts be provided solely by native(domestic) firms, without regard to the flag of the vessel, let them be even custom declarations, also reports in the ports, the rendering of advanced pay(occasionally also the arrangement of opportunity for buying) for the crew, the presentation of bills, of cash, and the like.

The opening of the naphtha resources in Austria and Hungary, the building of large undertakings along the Duna, for instance the smelting combine of Stalinváros(:Dunapentele) in Hungary, the increased output of mineral wealth in Bulgaria, the increase of the quality and also of the amount of agricultural products(oil

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

rice,fruit, wool) and the industrial products indicate that the Duna navigation is but at the start of its development.

Before the war, the total tonnage of vessels on the Duna had been :- 1 335 000 T, in which 193 000 T are tanker gross-tonnage. For tugboating, 150 000 HP were available. The transportation was carried out under 12 flags by 31 concerns.

To have an idea about the distribution of the prewar Duna tonnage, we introduce a summary tabulation on p.29.

On the Duna,before the war, as it is evident from the table, there have been— with the exception of the shipping firms in the river-side states —- also firms of purely capitalistic nature, taking advantage of the economical mastering of the smaller Duna-side states, for instance the French Société Française de la Navigation Danubienne, with headquarters in Braila (51 000 T of gross tonnage), the English Anglo-Danubian Trading Company, with headquarters in London and managed from Bucureşti (8 tanker vessels), the Dutch "Continentale", with headquarters in Amsterdam, managed from Wien

*** p.29) (31 000 gross tonnage). We mentioned those larger firms only which were sponging chiefly on the Romanian wealth of mineral oils.

FIRM	ABBREV.	TONNAGE
1. Czechoslovakian Duna Shipping Joint Stock Co.,Pozsony	CSD	78 300
2. Magyar Kir.Folyam- és Tengerhajózási Rt.,Budapest(Hungarian Royal River and Sea Navigation Jt.Stock Co.)	MFTR	130 000
3. Navigacianea Fluviale Romana, Galaţi (Romanian River Navigation)	NFR	130 000
4. Societatea Fluviale Romana de Navigatiune pe Dunare,Bucureşti) (Romanian River Company of Navig. on the Duna)	SRD	100 000
5.Dunarea, Braila	-	70 000
6. Rečna plovitba Kraljevina Jugoslavije,Beograd(Royal Jugoslavian River Navigation)	JRP	300 000
7. Erste Donau-Dampfschiffahrtsgesellschaft,Wien(First Duna Steamshipping Comp.)	DDSG	253 000
8) Süddeutsche Donau-Dampfschiffahrtsgesellschaft,Wien.(South German Duna Steamshipping Comp.)	SD	27 000

(cont.)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(Table cont.)

FIRM	ABBREV.	TONNAGE
9. Bayerischer Lloyd, Regensburg. (Bavarian Lloyd)	BL	97 000
10. Anglo-Danubian Trading Co.	-	7 000
11. Société française de la navigation danubienne, Braila(French Duna Navigation Comp.)	SND	51 000
12. Continentale Motorschiffahrts-A.G. Amsterdam(Continental Motor shipping company)	-	32 000

The volume of the Duna tonnage has reached about 1,3 million tons before the war. After the war, the volume of tonnage sank substantially (approximately about a third) which was caused by the large wartime losses, but it was quickly replaced by new constructions, particularly in the Czechoslovakian and the Hungarian dockyards.

After the war, according to the printed reports, the German and Austrian companies formed a cartel, to which companies, at the present, only the navigation above Wien is opened on the Duna. The rest of the river-side states have formed their individual shipping concerns, namely:

1. Czechoslovakia: Czechoslovakian Duna Navigation, abbrev.: ČSPD;
2. Hungary: Hungarian-Soviet Shipping Co.;abbrev.: MESZHART;
3. Romania: Romanian-Soviet Transportation Comp.SRT; abbrev.: SOVROMTRANSPORT;
4. Bulgaria: Bulgarian River Navigation; abbrev.: BRP;
5. Soviet Union: Soviet State Duna Navigation; abbrev.: SDGP
6. Jugoslavia: Jugoslavian River Navigation; abbrev.: JRP.

*** p.30) Data about the size of the vessel parks of these new firms have not been published.

On the Czechoslovakian territory of the Duna, on the left bank the following ports are situated: the ports of Pozsony(:Bratislava) (Km 1868-1865) and of Komárom(:Komárn)(Km 1769-1766), the transfer places,without railroad connections, at Bös(:Bíš) (Km 1820- 1819), Néma(:Klížská Nemá)(Km 1793-1791), and at Párkány(:Párkáň) (Km 1719). Warehouses are in Pozsony, Komárom and Párkány. The ports at Pozsony and Komárom, which also have equipment for transpumping mineral oils, are fully equipped with the necessary number of cranes.

The statistics on transportation on the Duna were not reported, except the Pozsony operation and the yearly runs at Dévény(:Devín); after the war,there was no passenger transportation. Before the war,it was maintained on the Budapest-Wien

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

(p.30 cont.) line, and Czechoslovakia had been carrying passengers at least on the Pozsony-Wien line.

In contrast, the transportation of commodities has developed very satisfactorily even though it was not possible to bring into agreement the possibilities of navigation with the seasonal demands on transportation, especially the transportation of industrial products.

According to the data published in the Handbook of Navigation, during eleven months of the year 1948, commodities(in thousands of tons) were brought to the Czechoslovakian Duna-ports by the following vessels:

VESSEL	IMPORT FROM					
	U.S.S.R	Romania	Bulgaria	Hungary	Jugoslavia	TOTAL
Czechoslovakian	1,8	73,4	15,3	46,3	101,9	238,7
Soviet	236,7	13,4	1,5	6,3	5,6	263,5
Romanian	52,8	19,7	5,4	-	0,6	78,5
Bulgarian	-	-	10,3	-	0,9	11,2
Magyar(Hungarian)	39,6	5,1	3,1	1,7	-	49,5
Jugoslavian	28,2	3,0	2,1	0,6	39,1	73,0
TOTAL	359,1	114,6	37,7	54,9	148,1	714,4

Of course, this distribution is not the same as the present actuality, controlled by the policy of close cooperation of the countries of the Peace Block. The Jugoslavian flag vanished from our import, and the part of the Bulgarian, Romanian and Soviet navigation is growing. Our flag is also fully participating in the export from the Soviet Union.

During the eleven months of the year 1948, Czechoslovakian goods have been expedited from the Czechoslovakian Duna ports according to the tabulation on p.31.

That what had been said about the import is equally true here.

In addition, there were 31 376 T brought in in transit, and 100 043 T were carried out (exported) on vessels of all flags. Thus, the turnover of the Czechoslovakian Duna ports

*** p.31) has been, during the first eleven months of the year 1948, 754 000 T in import, 441 000 T in export, totalling 1,195 000 T. Even this incomplete statistical tabulation shows two things which are very important in our Duna navigation:- firstly, the trend of an unbalanced condition, since the import is more than

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

double of the export; secondly, the small share of the Czechoslovakian flag, which has been only 32% in the import and the export together. This wrong condition is, however, being quickly corrected.

VESSELS	EXPORT TO U.S.S.R.	Romania	Bulgaria	Hungary	Jugoslavia	TOTAL
Czechoslovakian	2,5	67,6	17,0	1,0	21,4	109,5
Soviet	50,7	0,1	-	-	35,2	86,0
Romanian	-	5,4	-	-	2,1	7,5
Bulgarian	-	-	9,2	-	0,5	9,7
Magyar(Hungarian)	-	-	0,2	-	-	0,2
Jugoslavian	~~33,2~~	0,7	-	~~1,0~~	126,5	127,2
TOTAL	53,2	73,8	26,4	1,0	185,7	340,1

By special agreements, nevertheless, for the bulk substrates for reason of purposefulness, the part of Czechoslovakia will be reduced in the import of purchased goods(though she had been authorized and obliged to its transportation), and thus, also the part of the Czechoslovakian flag will decrease in the import.

The tendency of the importing states to reserve the substratum as much as possible for their own flag led to an uneconomical way of the Duna navigation, with poor utilization of the barges, and with contrary directing of empty tonnage with which we used to set straight the planned cooperation of the shipping firms of the peoples' democratic states with the U.S.S.R.

Such a planned cooperation of the large economic wholes gradually removed one more source of uneconomic practice in the Duna navigation, which is not evident from the quoted tabulations, namely the unequal seasonal distribution of transportation. The Duna, as a river fed by alpine glaciers and draining extensive areas of Central and Southeastern Europe, possesses the largest transportation capacity, given by full navigability, in the spring and the beginning of the summer. In the autumn, on the other hand, fords appear in the river, with small shipping channels, which are limiting the use of tonnage of the barges, and are slowing down the speed of their circulation. But just in the autumn, agricultural products are harvested and expedited which products are the chief export substratums of the Duna-side states.

The remainder of the non-agricultural type of commodities used to be received on the Duna relatively late, after the closure of the yearly agreements on

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the exchange of goods and after the arrangement of concrete contracts. Thereby, the demands on the Duna navigation increased beyond its capacity, and hence ,quite a good deal of the commodities, which could have been

*** p.32)

transported on the Duna, had to be carried by railroad,by which again the campaign points were deteriorated.

In the partnership conditions of countries heading toward socialism whose economy is controlled by plan,these causes of losses can be removed,or at least can be reduced to the minimum. Hence, nowadays, sufficient amount of the substratum is also secured in springtime so that the vessel park is fully exploited. This provision has a favorable influence on navigation,too,for the workers whose period of winter allowance is cut short, and whose employment increases the exploitation of the barges and tugboats.

The Duna is the border line between Czechoslovakia and Hungary. The problems which are arising from this fact are solved by an interstate convention between the Czechoslovakian Republic and Hungary. It is the agreement about the arrangement of Technical-Economical questions on the Czechoslovakian-Magyar boundary lines of the Duna section, published in the Collection of Laws and Ordinances, under Sect. 124/1938, which in principle is valid today. For the discussion of joint affairs, the Joint Technical Commission (STK) was established which as a rule approves the plans of further works twice yearly, approves the bills of the performed works, and discusses the results of the practical and scientific activities of the pertinent bureaus of both states. A new text of the agreement is now in preparation which in principle has to adapt the original text to today's limitations and to today's cordial relations with the neighboring states of the peoples' democracies. One of the important problem will be the arrangement of the relation of the Joint Technical Commission to the Czechoslovakian-Hungarian River Administration for the forded section of the Duna between Rajka and Gönyü.

S h i p p i n g r e l a t i o n s o n t h e D u n a .- The so-called Rajka-Gönyü forded section on the Czechoslovakian-Magyar line of the Duna is the boundary between the upper and the middle Duna. The breakage of the slope is at Km 1810, at Szapp(:Sap).(The upper Duna is counted as far as Regensburg; the middle Duna as far as the Vaskapu). This forded section is exposed to continuous change; it requires continuous vigilance of the measuring and staking-out service, and it par-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ticularly lowers the chances of an exploitation of the Duna fleet.

The maintenance and the improvement of navigability,and the attention to a harmless progress of the high waters demands from both states higher expenses than it can be reasonably demanded from them. Since the navigability of this section is a matter of concern not only for the river-side states but also for the entire navigation on this international stream, in the International Convention on the Regime of Duna Navigation,closed in the year 1948 in Beograd, it was thought of the establishment of a special river administration which should care for the maintenance and improvement of the navigability of the forded section, and which should collect, for the partial payment of its own expenses, the shipping fees from the vessels which are passing through this section of the Administration.

The agreement of the two states laid down that more shipping fees should not be charged to navigation than what is economically justified in regard to the attainment of improved shipping conditions.

Putting into practice this regulation of the agreement, the Czechoslovakian and Hungarian governments elaborated an interstate convention in which the details of administration, also the operation and control of this administration, were arranged. With its introduction

*** p.33) into life, a solution of the basic problems of the energetics exploitation of the Duna can be counted upon.

Beside thes fords, arising at the breakage of the slope of the Duna, fords occur below the mouths of the contributary rivers which bring much washed-away débris, for instance below the mouth of the March(:Morva) river at Dévény(:Dévín) (Km 1877), and below the mouth of the Garam (:Hron) at Helemba (Km 1714).

On the Czechoslovakian section of the Duna therefore, it is not the water-reading at Pozsony which is guiding in the indication of the highest admissible draught, but the it is the proclaimed shipping depth of the most unfavorable ford. The most unfavorable ford is not at a definite site, however, as it could be expected with a permanent channel, but it is the smallest shipping depth which,at different times, will occur at different sites, according to the movement of the gravel, according to the changes in the streamline,and according to the formations of the shipping channel.

The officially ascertained depths of the critical fords are announced on blackboards above and below the forded section of the Duna.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

For the relative inconsistancy of the bottom (i.e., owing to it), the scale used for the determination of the highest admissible draught is rougher than the one used on the Elba. The shipping depths on the fords are taken in decimeters(dm), and 20 cm(2 dm) is subtracted from them for the determination of the admissible draught. On the Elba, the shipping depths are measured in centimeters.

The shipping route is marked out, partly by floating signs, firmly anchored to posts and by buoys, partly by signal lights which are placed on the banks, on islands, or on floating anchored pontons. This will make navigation possible at night, too, but navigation becomes almost impossible upon removal of the shipping marks, as it happens in different sections of the Duna, should the arrival of freezing threaten.

SUMMARY OF THE KILOMETER READINGS OF THE DUNA.

a) BAVARIA:

Ulm	2538
Regensburg	2379 (river kilometers)
Deggendorf	2285
Racklan	2228
Passau	2226
Boundary line between Bavaria and Austria	
	2223 ...right bank
	2202 ...left bank

b) AUSTRIA:

Aschach	2160
Linz	2135
Korneuburg	1943
Wien	1929
Freudenau	1920
Boundary of Austria and Czechoslovakia	
	1872 ...right bank
	1880 ...left bank (Mouth of March/:Morva/ river)
Pozsony	1869 ...right bank
Boundary of Czechoslovakia and Hungary	
	1850

c) Hungary:

Gönyü	1791
*** p.34)	
Komárom	1767
	1766 ...mouth of the Vág
Párkány	1718
	1715 ...mouth of the Garam (:Hron)
Boundary of Czechoslovakia and Hungary	
	1708 ...right bank (Mouth of Ipoly river)
Budapest	1646
Adony	1598
Baja	1479
Mohács	1448
Boundary of Hungary and Jugoslavia	
	1433
Kiskőszeg	1425 (:Batina; inflow of the King Peter Canal, formerly Ferenc Csatorna)
Besdán	
Kazuk	1413
	1388 (Drávatorok; mouth of Dráva river)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(DUNA KILOMETER READINGS CONTINUED)

Vukovár 1338
Beočin 1272
Ujvidék 1257 (:Novi Sad; mouth of Alexander Canal)
Zimony 1174 (:Zamun)
1171 ...mouth of the Száva river
Beograd 1170
Smederevo 1115
Dubrovica 1103 ...mouth of the Morava river
Boundary of Jugoslavia and Romania
1075 ...left bank
Bazias 1072
Drenkova 1016
Orsova 955
Verciorova 949
Vaskapu 946 ...Roman stronghold
Sip 944
Turnu-Severinu
930
Dusanovac 863 ...mineral oil
Prahovo 861
Boundary line of Jugoslavia and Bulgaria
846 ...mouth of the Timok
Calat'at 795
Vidin 791
Lom-Palanka 744 ... mouth of Lom
Rahova, Orehovo
692
Corabia 678
Semovit 608
Nikopol, Turnu Majorele
597
Svistov 555
Ruse 496
Giurgiu 494
Border of Bulgaria and Romania
447 ...right bank
Oltenica 430
Silistra 376
Cernavoda 300
Harsova 252
Braila 171
Galați 150
133 ...mouth of Pruth rover
127 ...mouth of Reni river
Isacia Galați
102
Kilij Branch
80
Tulcea 72
Ceatul St.Gheorghi
63
*** p.35)
Sulina 0.

SIDE BRANCHES OF THE DUNA

	Length in Km	Duna Km reading
Golos branch	17	Km 860 - 877
Borcsea "	7	Călărași port Km 872
Măcin "	13	Km 169
Nussdorf-Albern Kanal	17	1919 - 1934 (in Wien)
Győr - Gönyü	17	(Branch 1794)
St Endre branch	31	1692 - 1657
Rukin(Mohovo) branch	9	1311 - 1316
Rama branch	27	1101 - 1062
Golubács branch	10	1040 - 1048 (Galambosvár)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

SUMMARY OF THE KILOMETER READING OF THE CANAL NETWORK OF THE DUNA:

a)

The King Peter Canal(formerly Ferenc Csatorna): on Jugoslavian territory connects the Duna (Km 1425) with the Tisza(Km 72); it is 123 Km long, and it has 6 locks.

Bezdán	0	...Km 1425 (Duna river Km)
Zombor	27	
Óbecse	...122	
Mouth to Tisza	...123	

b)

At Km 46 of the King Peter Canal, the Alexander Canal drains away(lock at Kis Szapár), and empties into the Duna at river-Km 1257; it is 70 Km long, and has 2 locks.

Kis Szapár	70	
Ujvidék(:Novi Sad)	6	
Mouth to Duna	0	(at Duna river-Km 1257)

c)

The Béga Canal is 115 Km long, and it connects Temesvár(:Timisoara)with the Tisza river(at river Km 12); it has 5 locks.

Temesvár	115
Boundary of Romania and Hungary	
	74
Nagy Becskerek	31

SUMMARY OF THE KILOMETER READINGS OF THE SZÁVA:

Sabác	...105	
Beograd	 3	
Mouth	 0	(at Duna river Km 1171)

SUMMARY OF KILOMETER READING OF THE TEMES:

Pancsova	...3
Mouth	...0 (at river Km 1154)

SUMMARY OF KILOMETER READING OF THE DRÁVA:

Length to its mouth 151 Km		(at Duna river Km 1384)
Barcs	. . 151	
Border of Jugoslavian and Hungarian parts		
	... .64	...left bank
Eszék (:Osek)	18	
Mouth of Dráva	0	

SUMMARY OF KILOMETER READING OF THE TISZA RIVER:

From Tokaj to the mouth at Zalánkemén (Duna Km 1216)

Tokaj	532
Tiszafüred	424
Szolnok	327
Csorgrád	240
Szeged	170
Boundary of Hungary & Jugoslavia	
	153
Nagy Kanizsa	146
Ujkanizsa	.....142 (cont.)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(cont. SUMMARY OF KILOMETER READING OF TISZA RIVER)

Zenta ...122
Obecse ....72 (outflow of the King Peter Canal)
Kustos ....11 (outflow of the Bega Canal)
Mouth of the Tisza at Zalánkemén
.....0

The irrigation and shipping canal Otrokowitz-Rohatetz.

An isolated torso of a waterway is the Otrokowitz-Rohatetz line, built in the year 1939 for supplying the Otrokowitz hydroelectric plant with lignite from Ratiskowitz, and for transportation of the river gravel for construction in Zlin. This waterway, which is 50 Km long, uses both the channel of the March river above the lock of some hold-backs, and its own canal body, which also serves for irrigation. At the end of the first five-year plan, this waterway of local interest will be entirely rebuilt by removing the wartime damages. Even at its present state, dredged gravel and sand from the March river is being transported on it in the amount of 96 000 T (1948.year). The transportation of lignite, which in the year 1940 amounted to 27 000 tons, has not been reestablished at the present time.

W A T E R W A Y S

A waterway is characterized first of all by the conditions of its navigability. It has to answer to certain minimum requirements in regard to steadiness of water level, of its banks and bottom, width and depth of its shipping route, the radius of its curvatures, the spead of its stream, and the like.

The marking of waterways.

The waterways are marked in different manner according to their length. On the Elbe-Vltava waterway there are three kinds of kilometering(stationing) downstream, namely from Budweis to Melnik, then from Melnik to Niedergrund(:Dolní Zleb), and then from the border to Hamburg. The D u n a , in contrast, is measured upstream from the Sulina mouth, as for instance Galaţi is at the 150th river-kilometer, Pozsony(:Bratislava) at the 1869th river-Km. The shipping route seldom runs in the center of the river, moreover, the shipping route is different for a navigation downstream, for which

*** p.37) the quickest flow is being sought, and for a navigation upstream which, in contrast, is leading through more quiet places according to the possibility.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

We call s t r e a m l i n e s the curves which connect the points of the greatest speed of the stream on the individual river sections. Usually, the stream lines also mark the greatest depth, since with higher speed the carrying force of the stream is also growing. At less speed, for instance at the widening of the river channel, or at the inner flank of the river bend, the carrying force of the water stream is sinking. The more easy it is for the gravel and sand bank to collect, to form shoals so that at spots the shipping route leads through fords. In such sections the shipping route is very winding and much longer than the length of the kilometer distances would indicate which is measured along the banks. On the Czechoslovakian Hungarian section of the Duna, forded sections which make navigation considerably difficult are to be found between Rajka and Gönyü, and on the lower Elba there are also [redacted]ford-ed sections. A slowing of the stream results because the slope decreases, namely, on the Duna at the passage of the upper stream into the middle stream, at the Elba in districts where, in the lower stream, the flow slows down and finally, to a certain length, it is reversing under the influence of the oceanic high tide, reaching as far up as Geesthacht above Hamburg.

Water Readings.

* * * * * * * *

The height of water levels is usually determined by measuring the height of the surface above a firmly fixed point. Directive water readings are, for instance, for the Elba at Aussig(:Ústí n.L.), for the Odera at Brzeg Dolny, for the Duna at Pozsony(:Bratislava), for the Rhine at Kaub, and so on. The zero point of these water readings used to be placed at different heights, but in the progress of time it was recognized that it is more advantageous to place the zero water reading at the level of the deepest bottom of the river, so that the data of water reading may be positive only. The comparison of water readings of different towns is rather difficult, and it is limited to a tracing of the movement of surface rather than to absolute data. The highest admissible draught is determined according to the water reading, or according to the height of the water surface. With due regard to the differences in individual water readings, the admissible draught is not everywhere determined in a similar way. At sectional water-readings the admissible draught is determined by subtracting 50 cm from its findings; the zero of the Dresden water reading is now [redacted] about 10 cm above the level of the river bottom, so that, practically, the height of the water reading would directly give the admissible draught.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Water Telephone.

* * * * * * * * *

The tracing of the water levels is necessary not only for the navigation but also for the entire water economy. The complex exploitation of water, which uses the water constructions both for improvement of shipping conditions and for production of electrical energy, for irrigation and watering, required information about the movements of the water surfaces, especially about the more rapid changes of short duration, which arise by the stoppage or opening of the transflow of water through the turbines. *** p.38) For the public interest, data are also necessary about the movement of ice and about high waters. In addition to the news element, the warning and organizational factors are also useful.

This demand is satisfied by the so-called w a t e r l i n e , also called water or shipping telephone, connecting the important points along the entire stream.

In the Elba district, such a water line has been established from Josefstadt(:Josefov) to Melnik where it enters into the Vltava line which begins at Budweis (:České Budějovice) and ends at the State boundary line at Niedergrund (:Dolní Žleb).

Along the Duna, the shipping telephone is built from Dévény(:Děvín) to Helamba, or, in the entire 152 Km long Czechoslovakian section.

The water line is used, as far as it concerns navigation, for reporting the water levels, for information about the shipping depths at the fords, for speeding up the swimming through the chambers(locks), to report about accidents, about demands for help, etc. A further acceptable purpose would be also the reporting about the movement of vessels which, at the present time, is done by the initiative of the shipping concerns. At some places, the water line is beginning to connect with the public telephone network.

Classification of the Waterways.

* *

Beside the grouping of the waterways into natural ones(rivers), artificial ones(canals), and lakes, we classify the waterways according to the largest tonnage of the barges that may float on these waterways. The grouping is arbitrary, and it fluctuates. The tonnage itself still does not give all the data necessary for the characterization of the waterway because it is not dependent on the length and the width of the vessels only, but also on their draught. For the waterways of adequate depth it is pos-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

sible to increase the draught to the detriment of the width; the mere figure on gross tonnage may then lead to wrong conclusions. Therefore, beside the gross tonnage, on the newer maps, the dimensions of the barge are also shown, for instance,

I. For barges with dimensions above 80m x 9.5m, with gross tonnage over 1350 tons;
II. For barges " " up to 80 m x 9.5m, " " " from 1000 to 1350 tons;
III. For barges " " up to 67 m x 8.2m, " " " from 550 to 1000 tons;
IV. For barges " " up to 40 m x 4.6m, " " " from 180 to 550 tons;
V. For barges " " below 40 m x 4.6 m, " " " up to 180 tons.

In the Elba-Odera district, these standards correspond to the employed size-types of the so-called Elba, Plauen and Finn measures(the big Finn measure is, instead of 40 m x 4.6 m, enlarged to 41 , x 5.1 m.).

It is therefore the great merit of Soviet science that it gave us the first truly scientific classification in the works of V.V.ZVONKYOVA, corresponding member of the Academy of Sciences. 7)

FOOTNOTE 7): The tabulation worked out by him was quoted in the publication of OHRAZCOV V.N., & ŠAULSKIJ F.I.: Local transportation on water, air and highway, and transport of industrial establishments. Praha, Industr. Publ.House, 1952, p.41.-

- - - - - - - - - - -

*** p.39) The classification of the waterways according to the Soviet method considers first of all that the water regime, and then the conditions of navigability also, are different on rivers and different on canals. In the classification, not only the average but also the smallest(guaranteed) shipping depths, the width of the shipping route, and the smallest// radius of the curvatures are shown. The waterways, according to the indicated minimum terms, are divided into a) long-distance arteries, b) waterways of local importance, and c) small rivers. The classification table is quoted on p.40.(of original).

According to this classification the Duna belongs approximately into Class III, the Elba and Odera into the group of waterways of local importance. This classification simultaneously indicates for us the immense capacity of the Soviet network of waterways, chiefly of the deep-water shipping system, connecting five seas of the European part of the Soviet Union with Moskva. 8)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

FOOTNOTE 8) : More accurate data bout Soviet navigation are in the work TRANSPORTATION in the U.S.S.R., Praha, Industr.Publ.House, 1952, p.36-53.

* * - - - - - - - -

VESSEL PARKS.

* * * * * * *

1. General vessels.

The vessels are transportation means by which navigation is carried out. According to their equipment and purpose, we divide the vessels:

1) first of all into vessels designed for transportation of goods and passengers. Here belong first of all the barges floating either by their own weight or in towage of a tugboat. For the transportation of smaller cargo within the harbor, we are using ferry-boats. The freight vessels of own propulsion, vessels for the transport of passengers, cargo steamers, sometimes called express steamers, motorized cargo barges(express barges), motorized ferry-boats which have, beside a space for commodities, also mechanical equipment for their own drive, we call collectively self-moving or self-moved(automotive) vessels.

2) Further group is the tugboats whose purpose is to tow the barges upstream and occasionally downstream(so far as the barge would not swim by its own weight). For connections with the banks and for emergency service, these large vessels have on the deck(aboard) or in the rear a small row-boat or motor-barge, small boats or larger boats. The displacement of the barges in the ports is procured by the so-called harbor(port) steamers.

3) To the third group belong the auxiliary vessels: floating cranes, elevator vessels, workshop vessels, motorixed inspection boats(launches), and so on.

4) To the fourth group belong the technical vessels of which there is need for the maintenance of waterways in navigable condition, and other vessels with similar purpose, e.g., dredges, measuring boats, housing vessels, diver and life boats, fire boats, police, customs and supervisory vessels, and the like.

* * * p.40) (For tabulation see next page)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

T A B L E

MARK	Long-distance arteries			Waterways of local importance		Small Rivers	
CLASS	I	II	III	IV	V	VI	VII
A) RIVERS:							
1. average shipping depth	above 3,0	3,0-2,4	2,4-1,8	1,8 - 1,4	1,4-1,1	1,1-0.9	below 0,9
2. smallest shipping depth	above 2,0	2,6-1,6	2,0-1,2	1,5-0.9	1,2-0,7	0,9-0,5	below 0,6
3. width of shipping route	100 - 80	90-75	80-65	70-55	50-35	35-20	25-12
4. smallest radius of curvature	1000-600	750-450	600-350	500-300	300-150	200-125	100-65
B) CANALS:							
1. depth	5,0-3,5	3,5	3,0	2,0	1,7-1,4	-	-
2. width of bottom	75-45	55-45	45-35	45 - 35	35-30	-	-
3. radius of smallest curvature	1000	750	600	500	300	-	-

* * *p.41)

Beside this, there are also m i l i t a r y v e s s e l s --gunboats, mine-layers, engineering vessels, and the like--- and v e s s e l s f o r s h o r t (common) n a v i g a t i o n, such as transfer ferry-boats, recreational and sport boats for rowing, or motorized and sailing vessels, etc.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

THE VESSELS FOR THE TRANSPORTATION OF PASSENGERS

(passenger steamships, motorboats) are equipped either purely for passenger traffic, or they have also loading spaces, and they also transport commodities. The passenger steamers and the motorboats are equipped according to how much they have to serve transportation. We distinguish then local, recreational and long-distance steamships. The large towns, situated on navigable streams and lakes, frequently make use of these waterways for the regularly and at short intervals travelling so-called w a t e r t r a m w a y s, where quick ascension and descension is the objective. They are as a rule smaller vessels; in the industrial districts of the large harbors, where such vessels also serve for the transportation of the working staff to the work, they may also reach large dimensions according to the required capacity.

To the recreational navigation at the nearby country residences or to navigation in relatively short local connections, vessels are accommodated offering the facilities of a few-hours or a day's sojourn:- therefore it is suitable if they would have sufficient number of seats, restaurant equipment, buffets. In contrast, for long-distance navigation, the passenger vessels must have spaces for the lodging of

FIGURE 1: Express steamer for cargo.

* * * p.42) crew and passengers, furthermore cabins, rooms for social gatherings, and the like, so that a few days' sojourn on them should not turn into a suffering. Transportation of travellers on the rivers has been always carried out, and it has been, especially on the mixed vessels transporting travellers and goods, the cheapest transportational device, even at distances of thousands of kilometers. Much better outfitting and larger speed was made possible, however, by the shipping concerns of the Soviet Union on whose great rivers motor vessels with cabins for 300 passengers are now floating at speeds up to 22 Km per hour, namely first of all on the Moskva Canal, and on the Great Volga; with the progressing enlargement of the network of the great waterways by the constructions of Communism, the demands for the comfort of these transportations will also steadily increase. As it is known, a few of these vessels were finished by our dockyard in Komárom, too, for which our industry had manufactured the machine and internal equipment.

THE VESSELS WITH SELF-PROPULSION FOR TRANSPORTATION OF GOODS

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(steamships and motorboats) procure quickened transportation of urgent goods. As a rule, they have a few loading spaces and they are occasionally equipped with equipment for the transfer of commodities, so that it is possible to speed up or to independently carry out loading and unloading of the goods. They are built at a gross tonnage from 50 tons(motor ferry-boats) to 1000 tons, either for the common goods, or especially for liquid commodities(petroleum, gasolene, oil, ropa ?,alcohol),for transportation of refrigeration goods(fish,fruit,beer) and the like. The automotive vessels have great advantages. Their speed, small crew, and the advantages which have been admitted to them in the line of clearance in the ports, led to the condition that especially the motorboats have become direct rivals of towed navigation, procured by tugboats and boats without self-propulsion, the more so since they have low self-expenses of transportation. Therefore, the spread of motorization is very rapid, and it gains ground in all districts so that finally the problem arises whether a tariff fixation is justified in which the goods transported by motorboats must be thought express goods and must be also charged as such. The motorboats differ from the common cargo boats in the fact that a part of the loading space(commonly at the rear or in the middle) is taken up by machinery, and by spaces for the enlarged crew that includes the captain, the first helmsman, the machinist, and the smearer(paster). The evolution of the vessel motors rapidly heads,however, toward uniformity and reliability which also convinces the Shipping Police Bureau that it is possible for one man near the steering-wheel to direct and to master the machine, then at a distance; then, the level of the crew will decrease by two members(the machinist and the smearer),and, aside from it, extra loading space is also gained.

THE CARGO BOAT

is the most widely used vessel on inland waters. In our country, it is built from steel plates only, in recent times; however,

**** p.43) there are also in operation very many barges with wooden bottom, and in the local traffic there are also barges made completely of wood. In the districts where there is an abundance of timber and where from time immemorial the vessels have been built of wood, as for instance in Kamo, the building of wooden vessels for large load is also wholly authorized. A few such vessels, at the place of destination, are again taken apart for planks and boards. The erection of

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

vessels with wooden bottoms has been long defended on the Elba with a reference partly to the damaging of the bottom by small waters which the wood can easier resist than the ironplate. The objection is also raised that, on the iron boats, there is a roundish transition line between the bottom and the side of the vessel so that the boat does not keep accurate direction, but --- mostly in longer towage --- it is listing to one side. This objection has been also raised on the Odera.

FIGURE 2: Wheeled tugboat with towage.

The inland navigation, designed chiefly for long-distance transportation of piece-meal goods(parcels), does not require from the vessel's architect the plan of a vessel with slim lines, which is a sign of great driving speed, but it wishes that the vessel should reach the largest possible tonnage and the highest useful draught. Geometrically expressed, it has to be a rectangular, parallelogram boat, with a prow and a stern coiled out only so far as it is necessary for the steering of the vessel and for the reduction of its drag. The ratio between the circumference of the vessel(this boat) and the circumference of a parallelogram circumscribing it is frequently larger than 0.92; only with units built for greater speed, as are the bodies of motorboats or of the boats designated to run at the greatest speed, will this coefficient of fullness of the boat sink below 0.90.

The v e s s e l ' s b o d y has a hull(spine and ribs) of profiled rolled iron which, on the bottom and at the sides of the vessel, is covered by an ironplate trimming. The cargo boats are either open for the transportation of the goods, ---which may be exposed in unfavorable weather and theft is not probable at them---, or covered.

* * * p.44) On the boats designed for long-distance navigation, at the front and at the rear, under the firm deck or in shanties, the dwelling places of the crew are placed. In the rear where the helmsman is staying the helmsman's cabin, with the steering wheel, is also placed. The height of these over-the-deck constructions is determined, to a certain extent, by the clearance(the getting-through under it) of the height of the bridges on the shipline which the boats have to pass through. In the open barges, sand,gravel,some ores, standing timber, and the like are transported. Merchandise which needs to be sheltered from bad weather and from theft is transported in covered barges, provided with a firm deck or with a cover that can be taken apart. The latter type of cover,by covering boards(planks) or tin plates, has the advantage that

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

practically the entire space of the barge is available for handling the goods. With firm decks, the loading space is accessible through an opening under which the commodities must be made ready for the crane and, on the other hand, through which the goods are lowered into the vessel no doubt, but then inside the vessel they must be still transported to a definite place to put them away. The cistern-type vessels(reservoir vessels, tankers), designed for the transportation of liquid goods, have a firm deck, and have pipe-lines on it for the filling and emptying of the individual reservoirs.

The l o a d i n g s p a c e of a vessel is divided by cross partition walls, of which some are water-tight, into freight spaces. The freight spaces on the covered barges, designed for international transportation, must be able to be completely and securely locked so that the customs control might ascertain the identity of the cargo. The distance of the partition walls determines also the greatest length of the individual pieces of the cargo. For an unusually long cargo it is then necessary to search for a suitable barge, and sometimes to tow it, after emptying, to the place of loading. For this reason, as also for the reason of the more difficult manipulation of such pieces, special surtax is collected for the transportation of the particularly long,bulky,and heavy pieces.

The v e s s e l ' s b o d y is so constructed that its load will be supported if the cargo in the barge is evenly distributed and when the barge is floating on the water. It is necessary therefore at the loading of the barge(if at least every other one of the loading spaces might not be loaded simultaneously) to pay attention to this balanced loading, and to alternate the loading space during the loading in a suitable manner. For the loading of particularly heavy pieces(casts, large machines) it is necessary to arrange in advance loading devices(joists, girders) which, for balance of the cargo, separate on larger surface of the bottom. If the barge would sit on the bottom ,with the sinking of water, or if it is pushed back by ice on a shoal or on the bank, the danger arises that the barge will break through under the unsupported weight of both of the cargo and even of the barge itself. In such cases therefore, instantaneous help is necessary in the interest of the vessel and of the cargo. The regulations about rendering help at crashes remind us of this.

Along the side of the vessel is the gallery on the deck; on the sides, horizontally extending,scratched-off laths, either of wood fixed in iron U-shaped bars, or of half-circle iron platings, are placed. From the gallery,the controlling pumping

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

pipelines are accessible, which extend along the sides of the vessels as far as

* * * p.45) the

bottom, and they serve for the tracing, occasionally for the drawing of water that had penetrated into the vessel.

FIGURE 3: Barges in towage.

Separate loading rooms are provided with a heightened floor for the protection of merchandise against the water that, in a somewhat smaller quantity, is always at the bottom of a vessel with a wooden bottom. On the barges for transportation of piece-meal commodities, side walls on which the atmospheric humidity frequently will precipitate(i.e., the perspiration of the vessel walls) as well as the humidity arising from the merchandise(non-dried corn, grains, salted hide, and the like), are also provided for the protection of goods and for the preservation of dryness and cleanness of the wooden walling. Out of the further equipment of a barge we mention first of all the anchors whose number and weight are prescribed in proportion to the size of the barge. They are placed in the front and at the rear of the vessel, and they are fixed to anchor chains which transmit the operation of the anchor upon the vessel and upon the released cables by which the anchors are lifted above the water and occasionally upon the deck. The anchor chain is rolling up, and the anchor is pulled up through the anchor hatch by means of a gear work which revolves on a drum along whose circumference travels the chain or winds up the cable. The hatches are of hand or motor(on the steamships also of steam) propulsion.

For the direction of the barge either the helm serves, mastered by cogged wheel-work to which the movement of the steering wheel is transmitted, or a long lever which is movable by hand or by means of a log of wood and wheel.

To the normal outfit also belong a crowbar and a pole, the fastening and towing rope, the tow chain which is cast into the water to slacken the speed of the vessel if there is feat that the anchor, on trial of an unexpected stoppage, would tear off

*** p.46) when committed to the fastening of a rope; also the hand pumps, the signal lamps, padding material, devices for cleaning, maintaining and conserving the vessel and the like.

The older barges also have a folding mast and sail. The vessel material is often placed in storerooms frequently located inside watertight partition walls and at the front of the vessel.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

To a complete furnishing of a barge also belongs a small boat, usually chained to the rear end of the vessel, at hand to the helm; it serves for the transportation of the crew and the vessel's material between the banks, and also for emergency purposes.

The Automotive Vessels

differ from the barges chiefly by the fact that they have their own source of movement. These vessels are either passenger vessels, which we had already repeatedly mentioned earlier, or cargo vessels, furthermore tugboats and small passenger vessels. The source of the motive power is a steam engine or an internal combustion engine motor. The advantage of the steam engine is that it is relatively simple, very flexible, and that the revolution of the motive mechanism can be regulated within the widest limits. Its disadvantage is chiefly the space demand because, beside the steam engine proper, there must be also placed a steam boiler and a relatively large supply of fuel, i.e., coal, wood, in petroleum districts heating oil

FIGURE 4.: Fully loaded tanker barge.

* * * p.47)

and the like. A further disadvantage is that the pressure of the steam must be maintained, and then the fire beneath the boiler also, which is consuming fuel, even when the vessel does not travel. Relatively frequently, the boiler has to be cleaned out from the sediment and the boiler-stone. Therefore, first of all at the cargo automotives where it may be every spare space designed for transportation of commodities, there is a transition from steam propulsion to motor propulsion.

The transportation of mineral oils(petroleum) is carried out in special cistern (tanker, reservoir) vessels, and under special conditions because one has to take into account the risk of fire, occasionally the risk of an explosion. The moorings of the tankers are often separated; there are even special harbors built for the transportation of petroleum, e.g., in Pozsony(:Bratislava).

The liquid merchandise is pumped through by pumps located as a rule on pontons; from the steam propulsion they change to electrical propulsion which must be protected, however, against any sparkling. The switches, the connections, the electric motors,etc.,must be then non-explosive. The goods are pumped either from distant conduits, from port reservoirs, or from iron cisterns into the tanker barges,or vice versa.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

At this operation, if we do not see to the strict antifire provisions, it is necessary to take into consideration the heat, unless some petroleum will stiffen at the lower temperature, or it will thicken so that it cannot be transferred without preliminary warming. The warming is performed by steam, and it also requires

FIGURE 5: Wheeled steamer tugboat.

* * *p.48) more time, in addition to the increased expenses. Therefore, the oils which stiffen at lower temperatures are mainly transported in the summer, by which custom, however, the need for storage space usually increases. The cistern vessel, used for definite types of mineral oil(e.g., gas oil) can be used for other kinds (e.g.,for benzene) after thorough cleansing only. That this actual loss be prevented, these tankers are rationed(so far as operationally possible) for certain types of oil.

The v e s s e l m o t o r s are mainly of the Diesel type, but there are also gasoline (internal combustion) motors, and electric ones with accumulators. Lately, in the Soviet Union, vessels with electric propulsion are being tried out where the current of the motors would be supplied by similar power lines as to the trolley buses. Beside the liquid propulsion materials, gas materials are also found good,for a small vessel on a small trip it is compressed or discharged in steel bottles, for larger performance it is produced from wood,coal or from coke in generators on the vessels.

The advantage of motor propulsion is the permanent working readiness, the small space which the engine itself, also the supplies of propulsive material require, the smaller crew for the engine(occasionally the crew is wholly discarded), the small consumption of operational material at equal performance, and the possibility of long uninterrupted service.

On the vessels with own propulsion, especially on the larger ones, the majority of the difficult

FIGURE 6: Propeller-driven motor tugboat(line tractor).

* * *p.49) work by hand is mechanized. First of all, there are the anchor hatches, the steering engine, and the pumps. Gradually,however, even the main and the emergency engines are changed to remote control from the steering wheel or at the captain's bridge, which assures quick maneuvering and excludes the incorrect hearing of orders. Against these, the vessel technic defended itself for a long time by means

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

of the so-called v e s s e l t e l e g r a p h . This consists of two dials, one located on the commander's bridge, the other at the post of the machinist, whose pointers indicate the corresponding position of the directing lever. In place of figures, on a circular sector, orders of the necessary commands are written for speed and direction of the rotation of the motor equipment. The telegraf is sometimes two-directional, that is, on his dial the machinist will put up independently the directing lever to that order which the hand of the dial, mastered at the bridge, has indicated for him; the commander of the vessel can make sure, from the reply of the machinist, whether his intended command was indeed correctly transferred.

FIGURE 7: Motorized ferry-boat.

Even on long drives, the speed of the engine must be changed relatively frequently, e.g., at passing ahead, and meeting another vessel, at passing by floating equipments, and at passing by vessels laid down along the bank, or in straits, etc. The motor gear is adjusted to the movements of the automotive vessel. If we omit the old cabel steamships which moved by rollung up on a drum a cable or chain, laid down at the bottom of the river, and by its simultaneous off-reeling, the chief motive mechanism of vessels is the shovel-shaped wheel and the propeller screw.

* * *p.50) The wheels are placed either at both sides of the tugboat, or at its rear. On large tugboats, the shovels of the wheel are formed so that their mounting at reparations is facilitated. The propeller screw requires greater depth of water; it is however more effective.

The vessels driven by Diesel motors have a number of advantages, in contrast with the steamships, especially lesser draught, and then, too, a longer time of utilization in case of sinking water levels, constant readiness for transportation, less frequency of damages upon loading the vessel with propulsive material, lower number of engine personnel, the ability of remote control of the machine from the captain's bridge, and finally also the fact that the expenses of propulsive material, in consideration of the high caloric value of the naphtha and in respect to the easier operability of the Diesel motors, are lower. In the transition to motor traction on the Duna, where Czechoslovakia was (in the same way as on the Elba) the pioneer in building motor tugboats, they have calculated in the following way:

With the price of the naphtha at 29 Czech crowns for 100 Kg (in Romania) and of the coal at 19.50 Czech crowns for 100 Kg (in Pozsony), and with an hourly

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

consumption of the tugboat at 1000 HP - 1000 Kg of coal and 180 Kg of naphtha, the difference in prices of the consumed fuel (195 - 52) alone, at 143 Czech crowns, makes about 500,000 Czech crowns annually; the saving on the pay of the stokers (2 shifts) comes to about 60,000 Czech crowns annually; the better use of the tugboat yields a saving of about 150 000 Czech crowns, so that the yearly saving on a single motor tugboat, in contrast with a steamer tugboat, makes almost 3/4 million Czech crowns. On the Elba, the saving had been less by about one half million, because one could not count with the low price of propulsive material which the Duna tugboat could directly tank in Romania.

The disadvantages of the motor wheeled tugboat are the high number of revolutions of the motor, and the resulting need for a reduction of the operational revolutions. The reduction is carried out by special gearwork, which is very complicated, however, and it must be made of first-class material; because the rest of the auxiliary equipment of the vessel is also complicated and numerous, it requires a well-qualified service. This relatively delicate and complicated gearing is unfavorably influenced by such operational conditions when the speed of the vessel has to be fre - quently changed, and sometimes its capacity has to be overburdened. The robust and less sensitive steam-engine will tolerate these unfavorable conditions for a long time and easily.

The tugboat is causing not only its own movement and the movement of its trail, but it also transmits a part of its energy to the water. Thereby, waves or sudden changes arise on the water surface, which may cause damage on the banks, on floating equipments, and on other vessels. Therefore, e.g., the speed of the tugboats and of the vessels of own propulsion is also generally regulated in navigation by police orders, and the navigation practice thinks it necessary to preserve the numerous safety measures at passing, on meeting, and at overtaking other vessels.

In the present common practice, the tugboats are towing the barges with the aid of a towing cable (simple or double, fastened by various ways, according to the traffic conditions). With good results, trials are being performed, however, at letting the tugboat push the barges. This method supposes a relatively good waterway as regards clearness, width and depth; it has not spread, however, inspite of the good experience obtained during the last three years on the Volga and isolatedly also on other rivers.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

* * *p.51) FIGURE 8: Cargo motor barge.

Exploitation Of The Vessel Hold.

The most important factor in the exploitation of the vessel's hold is the degree of exploitation of the gross tonnage of the barge in respect to its full draught. The majority of our barges are built at a draught of 180 to 190 cm, but the navigational conditions, i.e., the smallest shipping depth, for the major part of the year, does not allow a full utilization of this draught.

The Czechoslovakian Shipping Bureau gives the use of the Elba barge of a gross tonnage of 900 T at different draughts. This use is cited by us in the tabulation on p.52.

The shipping depths then may sink even below 70 cm for a longer period, and then the operation of navigation is not only not rentable but also (for larger draughts of the tugboats) impossible.

Under such conditions the navigation stops, and the barges are used either for storage, or— by a compromise with the consigner(sender)—they are loaded at "rentable" draught, for example at 130 cm, and the commodities and the vessels count upon the improvement of the water level, or upon the cessation of the superimproving waves as in the example of the Odera.

A summary of the possible utilization of the Duma barges according to their draught is given in the below introduced tabulation.

* * * p.52) TABULATION OF THE USE OF THE ELBA BARGE OF 900 T TONNAGE

LOAD	DRAUGHT IN CM	% OF DAYS WHEN FLOATING WITH THE GIVEN DRAUGHT WAS POSSIBLE	
		in the bad year 1934	in the good year 1936
-	40	40	-
1/4 = 225 T	76	4	2
1/3= 300T	86	15	7
1/2 = 450 T	111	15	24
2/3=600 T	136	4	7
3/4 = 675 T	146	10	28
900 T	190	12	32

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

670

TABULATION OF USE OF THE DUNA BARGE OF 670 T TONNAGE

LOAD	DRAUGHT IN Decimeters	NUMBER OF DAYS WHEN IT WAS POSSIBLE TO FLOAT with the given draught	
		in the year 1933	in the year 1954
670T	19	198	135
3/4 = 503 T	15	71	126
2/3= 446T	14	24	38
1/2 = 335 T	11,5	14	24
1/3= 223 T	9	37	10
		344	333

To always preserve a certain safety and also an ability of maneuvering, the barge must have at least 20 cm water under its bottom. The shipping depth must be then about 20 cm greater than the draught of the vessel.

This safety increment(" margin") is varying according to the character of the stream(stony, sandy bottom), and according to the fluctuation of the water level. It is known from experience that, with the dropping of the water level, there is need for larger "margin" than with low water-level which will last for a longer period, because, under new relationships, the stream of the river will excavate for itself a channel of about a few centimeters within a few days.

For the use of vessels, not only their tonnage is important but also their stowage space, i.e., the cubic volume of that part of the vessel which is meant for the stowage of goods. The individual kinds of the transported merchandise have very different

* * *p.53) bulk in relation to the container. We quote below the space in cubic meters (m^3) which is taken up by ONE ton of a particular merchandise:

cotton	2-6	flour	1,4		
potato	2,2	phosphate	1,2		
coal brick	0,9	yuta	3,1		
cement	1,1	stone	0,5		
cellulose	1,6	coke	2,6		
bricks	0,8	rails	0,2	iron	0,3
tin	0,2	cork	6,9	rye loosely loaded	1,4
lemon	2,4	paper	2,0	rye in sacks	1,6
sugar	1,3	sand	0,6		
tea	3,7	salt	1,1		
board	1,7	iron ore	0,3		
corn	1,4	tobacco	3,0		
salted hide	1,2	coal	1,3		
dry hide	4,5	pressed wool	2,1		
lamps	14,5	non-pressed wool	7,0		

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Though the use of hold, however, respectively the demand of certain types of goods upon the hold at oceanic navigation is directly reflected in the asked rates, at inland navigation the increase of rates is a little less, and it is obviously hampered by looking upon the system of railroad tariffing which has a relatively slight increment on bulkiness, or does not consider bulkiness in general. (The oceanic rates are estimated either according to tonnage or cubic metrage of the goods, as the vessel may choose).

Upon the utilization of the hold, the uniform demand for transportation forces has considerable influence. If by the vessel hold the top demands on transportation, which are usually the largest in the autumn, have also to be covered, the vessel space is decisively not exploited for the majority of the year. If there is a vessel park adapted to the average annual demands, then, with increased demands, the vessel park will not suffice, and the railroad is used as a more reliable means of transportation. In the time of declining demands, in this case also, the use of the vessel park will drop.

The strong seasonality in transportation results first of all from the seasonality in the departments with which navigation has established relationship. For example, maritime navigation in the Baltic Sea in the winter usually stops, and thereby an insufficiency of substratum is caused in the Odera navigation in the spring. It is different with the navigation in the Duna-riverside countries which, inspite of the quickly progressing industrialization, are chiefly agricultural, and they export the excess of their agricultural crop immediately after the harvest. Therefore, the capacity of the Duna navigation is often insufficient.

This unevenness can be combatted in the states of the people's democracies, which manage their economies by plans, more effectively than under the capitalism. The trade agreements already anticipate a balanced expediting, concrete conventions may plan further supplements actually. For the use during the first days of open navigation when by inertia the international transportation is still disposed on the railroad, sufficient stock of merchandise must be gathered together so that the barges should not count on a high-tide of new goods whichfirst appear only in little amounts. A stock of goods for the start of navigation can be made either directly in the barges (cement, boards), or in the warehouses of the ports (sugar, piece-meal goods) or on the *** p.54) free dumping places (ore). Stock can be formed either during the period near the beginning of navigation, or in the fall already, for example in case of ores

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

transported on the Baltic Sea.

During the year, much of the more even tide of cargoes can be also obtained if their registration would be well organized, and their expediting would be managed by the dispatcher method.

The unevenness of the tide of cargoes, in case of the temporary demands on navigation, is accompanied and strengthened by the asymmetry of demands upon navigation as to directions. This directional imbalance has a deep structural basis, and it will very substantially decrease/)lower(the use and the performance of navigation ; it will increase the self-expenses of transportation and, at the Czechoslovakian navigation, it will result from its function to procure mainly foreign transportation.

As a highly industrial state, Czechoslovakia is exporting industrial products, the value of one ton of which exceeds several times the value of the raw materials imported for the industry (ores, naphtha products) or for living (grain, fodder, tobacco) etc.- Because the balance of foreign trade is set in values, this disproportion in weights appears between a weak export and a strong import.

A further cause which strengthens the directional asymmetry is that the export is traveling in other directions than the import. Against the import of the ores from the Soviet Union, which are transported on the Duna, and against the import of the Soviet apatite and the Swedish ores on the Odera, we do not have many exported goods which could have been transported in the opposite directions. At the Elba, the directional balance has been sometimes depressed, since on that river, large amounts of exported commodities were transported, e.g., cement, sugar, boards, and wood and coal to Germany. The strengthening of foreign trade with the U.S.S.R. and with the countries of the people's democracies, the discrimination of the imperialistic block in the foreign trade and in the maritime navigation have also produced a weakening of the export toward Hamburg.

The practice itself shows how to solve this conflict. The Odera navigation which has Czechoslovak substratum practically only upstream, is thereby directionally the most balanced, since the downstream substratum is providing cooperation with the Polish navigation at the export of Polish coal. The Duna navigation procures not only the export of our products, but also of the Polish products (coal, coke). Besides, it begins to assume even larger cooperation with the German Democratic Republic.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

We may see that the navigation in the countries of the people's democracies must be placed upon new, higher functional level, resulting from the special favorable condition of the economy of these countries which will exploit the waterways as parts of a large, uniform transportation network. In the railroad transportation, there has been already reached such a harmony at a high level by the Warszawa Conferences on International Transportation of Goods on Railroads(MCS), and the Uniform Transit Tariffing(JTT).

If we should then follow particularly the navigation on the Elba, Odera, and the Duna

* * * p.55) in regard to Czechoslovakian foreign trade only, but with wider consideration of the special exchange of products and of the basic transportation streams in the area between the North Sea, the Baltic Sea, and the EX Black Sea, these principles of transportation planning, correctly and uniformly vindicated, will already secure sufficient cargo for the waterways so that their capacity would be well, even though not fully, utilized.

With a better utilization of the capacity, even the self-expenses on the single transports will be reduced, namely with an especially rapid navigation. For this, we must look also at the established tariff rates which will be then possibly reduced if the capacity would be better utilized. Before we reach this stage, we must resolve many problems and overcome many difficulties a large part of which is still caused by the old-fashioned way of thinking. With a good planning of the transportation between the German Democratic Republic, the People's Republic of Poland, Romania and Hungary, Czechoslovakia and between all these states mutually, and with the Soviet Union to them, also the directional asymmetry will be removed because, under similar conditions (bulkiness, long-distance), water transportation along the naturally navigable streams has lower self-expenses of transportation than has the railroad, and therefore it is given priority by the transportational plan.

Should the navigation be utilized with priority, the temporary unequality of demand will also disappear, since, with a constantly growing exchange of products in an economy without crisis, the navigation will be exploited to capacity. On the example of the Soviet Union we may see that, in the Soviet U.S.S.R., navigation has experienced a quicker development than the railroading, namely for the reason that the natural advantages of navigation were exploited as much as possible for the reduction of the transportational expenses of agriculture as a whole.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

Therefore, one of the most serious tasks is to permanently improve the shipping conditions on the Elba, Odera, and the Duna which today, due to the unequality of the drainage, depends upon the fluctuation of the water level. The unequality of drainage results from natural conditions of our geographical area (snow melting, rains, freezing). But these unfavorable natural conditions may be overcome so that technic is used for the stimulation of nature. In this direction, the interests of navigation join with the interests of energetics, and with the interests of the antiflood protection, and with the economical management of the water in general. The complicated exploitation of the water streams, which we are seeing on the Great Volga, on the Duna, the Dnjeper and at other constructions of communism, will quickly improve the waterways both in respect of the equalization of drainage and, hanging together with this, in respect to the increase of the shipping depth.

On a numerical material collected from the statistical records, the below introduced calculations should explain a few problems of the utilization of vessel space under the then contemporary conditions.

In respect to the unequal demands for transportation work upstream and downstream for a shorter period of time, the questions of utilization of vessel hold on the Elba show the movements of the empty vessel holds. In the year 1935, the state boundaries were crossed by 663 vessels with a total tonnage

* * * p.56) of 479 000 T. - Downstream 1496 loaded runs were made, and upstream there were 1929 runs. Downstream, 506.5 thousand tons were transported in 1027,9 thousand tons of stowage space, that is, the utilization of the space was 49%. - Upstream, there were transported 505.6 thousand tons in a stowage space of 1,054,8 thousand tons, with a 48% use of the available loading space. Each ton of the gross tonnage had transported 1012 / 479 = 2,1 tons of goods, which is a very small exploitation, which was caused not only by the relatively bad water levels in the summer of that year, but also by the small tide of merchandise. Each ton of gross tonnage is engaged 2083 / 479 = 4,4 times, which -- with an average speed of 6 Km and an average transportation distance of 750 Km -- means only 550 hours of run (750 x 4,4 = 3300; 3300 : 6 = 550). Should the shipping period last 280 days and half of the time of this should count for loading and unloading, then, with an average daily run taken for 12 hours, the run used up 46 days only (= 550/12), so that for 94 days (= 140 - 46), the barges were not exploited. This calculation indicates similarly the enormous reserves which can be mobilized in a planned economy

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

so that the navigation will be ensured with an adequate substratum. Further reserves are in fact that we have used very low indices of exploitation for the working time that could be stretched to 24 hours a day.

From the above mentioned data it follows that the average tonnage of a barge was 720 T (479 000 : 663), and that, with one navigation of the barge, 345 tons had been transported. For the economy of a definite type of barge the i n d e x o f e x p l o i t a t i o n o f t o n n a g e is important, given by the ration of tons transported with a single run downstream and upstream, to the gross tonnage. From the statistical data (Shipping Yearbook,1937) we find out that this index was the following for barges of different tonnages (the real percentage of utilization is one half of it):

501 - 600 Tons	555 : 550 . . .	1,01
601 - 700 T	633 : 650 . . .	0,98
701 - 800 T	748 : 750 . . .	1,0
801 - 900 T	837 : 850 . . .	0,99
901 -1000 T	875 : 950 . . .	0,92
1001 -1100 T	883 :1050 . . .	0,85
1101 -1200 T	976 :1150 . . .	0,84

From these data it is obvious that for the Elba navigation, with a certain water regime and with a certain composition of the substratum, a limit is goven for the enlargement of the gross tonnage of the barges between 700 and 900 T of tonnage. The then composition of the Elba merchandises is characterized by a relatively large proportion of piecemeal goods, which one must carefully handle at the cartage(reloading) and this will prolong the time of cartage and will retard the barges in the port. Smaller barges are quicker loaded up to the permissible draught and quicker unloaded, then they

* * *p.57) circulate quicker, have a smaller drag in the run, have a smaller crew, and they are cheaper in regard to investment. A similar calculation for the Duna navigation, with the predominance of the bulk substratum (ores, grains, mineral oils), with its quick loading and unloading and, with a favorable water regime, would show us a complete reverse, i.e., it would show the advantage of barges with larger gross tonnage. Then, it is necessary to investigate in details each case on the basis of a longer statistical material, and also to look at the entire prospective changes in the composition and nature of the substrates.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Condition of Vessels.

One of the basic conditions of the safety of navigation is a reliable (seaworthy) vessel. Trustworthiness, i.e., accurate construction, correct material, and correct maintenance is obtained by systematic control.

Under the capitalism, in this direction and in self interest, great works have been achieved by the insurance companies which protected themselves against the damages which would arise if the condition of the vessel would not guarantee the safety of navigation. This activity, originally providing for the good condition of maritime vessels, manifested itself as a special form of classification companies, such as was the Lloyd's of the British, the Bureau Veritas of the French, and the Germanischer Lloyd of the German Insurance Companies. Selected experts followed the new constructions, analyzed the damages, and laid down new requirements adjusted to the most modern technics and science to which the dockyards were subjected. Deviations from the prescriptions of the classification companies led to a rising of the insurance premium both on the vessel (insurance of carrier) and on the goods(insurance of cargo), and sometimes it could also lead to a flat refusal of the insurance coverage.

After the end of a certain period, each vessel had to submit itself to a revisional inspection of a fixed limit. Such inspection had been also ordered after every collision, groundings, and after similar crashes.

The Ministry of Transportation has prepared special instructions and informations about the conditions and the registration of vessels to whose system we adhere in the following. Less strict prescriptions are valid for the small vessels, i.e., vessels up to 10 m in length, and up to 15 tons of displacement, or for vessels with engine propulsion of approximately 15 HP capacity. The displacement is calculated so that the highest admissible draught (d) is multiplied by the width(w) and the length (l) of the vessel, measured on the surface of the water, and adjusted by the coefficient 0,7. Then, the product equals:

$$d \times w \times l \times 0.7.$$

The vessel must be maneuverable, i.e., it must have equipment which will permit to change the direction of the run easily and reliably. We distinguish the following vessels:

1) passenger vessels, conditioned by structure and by full equipment for the transportation of travelers; STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

2) cargo vessels, conditioned by structure and full equipment chiefly for the transportation of commodities;

* * *p.58) 3) tankers, for transportation of liquid goods in chambers of the vessel's stowage;

4) tugboats, i.e., vessels with engine propulsion, conditioned by construction and outfit for the towing or for the pushing of other vessels;

5) transportation ferries;

6) sport vessels;

7) special vessels for particular purposes, e.g., icebreakers, fireboats, diver boats, and the like.

Every vessel must be examined before it goes into operation, and it must have a legal document about the examination. Special documents are not required from the trailers and the emergency vessels.

For the examination of the technical condition, the special "Technical Conditions for the Building and Outfitting and the Safe Traffic of Vessels" is valid. In addition, the construction and the outfitting must conform to the published orders for the protection of life and health of the employees, and occasionally also to special orders.

A special Commission of the Ministry of Transportation has established appropriate and economic patterns of vessels which have to be generally manufactured. The technical condition of the patterns is approved by the Ministry of Transportation, the technical condition of the individual vessels, of their constructions and the like, by the Regional National Committees.

At the investigation, which is conducted by the special commissaries, the technical foundations are compared and examined, the technical examination of the vessel is carried out, and, if the question is about a vessel with self-propulsion, also the examination of the run. The vessel is similarly marked. Should the vessel not yield to marking, then the water drawing of the largest permissible draught is ascertained. If there is no other stricter prescription, this must lie at least 20 cm beneath the lower point of the upper edge of the side walls. This so-called free border must be also indicated in the document.

A vessel which may submerge deeper than 60 cm and which will transport a load heavier than 25 tons, must be provided with draught's scales.

The details are determined by special regulations of 15 April 1932, Sect. 51 Sb. about the gauging of the inland vessels. The ascertained gross tonnage is

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

marked on both side bows of the cargovessels. For the passenger ships and the ferries, the highest admissible number of travellers is established, and it is indicated on a well-visible table which is placed on the vessel. Should such a vessel carry commodities in the space designated for travellers, one half of a square meter of the floor space required for goods is counted as one traveller.

The document of the condition of the type pattern is issued to the manufacturer. The manufacturer is then bound to exhibit type certificates for each vessel which corresponds to the approved pattern.

The document on the condition for navigation is issued by the examination office; during navigation this document must be on deck. In the document, all the changes of the original data are also recorded.

Repeated examinations of the technical conditions are carried out for the sake of control, whether the vessel is still answering the stated conditions. The examination may be waived if the owner of the vessel would submit a valid classification document,

* * *p.59) issued by the organ which the Ministry of Transportation indicated, and if the terms of the classification organ are not lower than the terms of the Ministry of Transportation. The technical inspection and examination of navigation is repeated on the passenger ships every year, on the tanker ships every other year, on the tugboats and cargo vessels every five years, until the vessel becomes twenty years old, and thereafter every three years.

Beside the document on the technical condition of the ship, there must be still further ship papers on the deck of the vessel. It is mainly the ship book (Official Log Book) where the results of inspections, the larger improvements and changes, the larger damages to the vessel's body and to the engines are recorded. All the ship papers are also recorded there, occasionally the technical (dispositional) drafts. The correctness of the handling of the ship book is ascertained by the shipping organs by means of spot examinations. Further vessel papers are on the steamers the boiler certificates, on the compressor motor vessels the certificates of the pressure tanks, the gauging paper of the vessel, the navigator booklet of the vessel's crew, and other certificates about their condition, and the crew list.

Registration(Evidence) of the Vessel.

The native vessels, i.e., vessels in the property of the Czechoslovakian

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

State, of Cechoslovakian state citizens or of legal persons with residence in our country, have a right to carry the Czechoslovakian State flag. These vessels must have registration (:evidence) marks. A registration mark is a marking of the vessel recorded in the document of capacity. It is the abbreviation of the name of the district in whose area the vessel has its station, and a serial number, allotted by the KNV. Beside the registration mark, vessels may also have a name. The registration mark must be visibly marked on both side-bows, at the wheeled tugboats on the wheel-side.

So far as rafts are concerned, for each run of the rafts a permit of the KNV is issued. The binding of the rafts, i.e., the composing of the round logs into tables and the changing of the tables into rafts, may take place only at places officially determined for this work, and thus, so that there will be no obstacles caused in the navigation. On each raft, at both ends, there must be not less than two oars, equipped for the stopping of the rafts, suitable tools, ropes, and necessary devices for giving signals. Furthermore, the raft must be marked, in its center at a special board, with the name of the proprietor and the name and residence of the commander of the raft.

P O R T S.

* * * * * *

The places for the change of travellers and goods on the watefways are called ports, transfer(reloading) places, or landing places. The ports have special water basins gained either by enclosure against the river, or by dredging

* * *p.60) the banks.

The transshipping ports are chiefly banks only, built out for the needs of transfer. Still simpler are the landing places which serve for the passage of the travellers and luggage on the vessel and from the vessel. They are as a rule floating or fixm portal bridges only. Special types of ports are the protective ports where the vessels take shelter at the movement of the ice and through the winter, and which sometimes have no equipment either for the transfer of goods or for connection with the overland communication. Portal basins are to be found also at dockyards (for different works, examinations, etc.) and, in case of emergency, they may be also used as protective ports.

Every port must be well approachable for navigation. It should enable the necessary maneuvers of the vessels, especially the turning around; it should have sufficient shipping depth,and it should have equipment for the safe fastening of the vessels. If in the port there is not enough place, it is necessary that the barges could

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

turn around at least on the adjacent river surfaces (turning places) so that the barges and the towage could moor there, and that the towage could be also composed there.

For the fastening of vessels, people use rings, crosses and other supports on the banks as well as clumps firmly driven into the ground and mutually tied together (usually of round oak logs), providing rings for the tying of the vessels.

The quay piers of the port usually have oblique slopes or vertical descent (in this case they are built of stone, iron, fortified concrete, or of wood). Small steps and ladders are provided. The oblique quay is constructionally cheaper and for a few types of transfer, even of the mechanized one, it is entirely suitable. For the transshipping place, in addition, a sloping quay has the advantage that, at high waters, the transflowing profile of the river is quickly increasing.

The vertical portal quays, however, always have the advantage of shorter transfer cycles, i.e., of quicker transfer of goods between the river vessels and the firm land.

The ground of the port must be sufficiently high so that, with high waters, it would not be necessary for the port to stop its work and that the goods, the warehouse, the transportation devices and the equipment for transfer are also in safety.

In ports situated near river mouths into the sea, the water level is fluctuating under the influence of the ebb and the tide, namely sometimes so strongly that the vessels must be protected, in the interest of the undisturbed transfer, not only against such fluctuations but also mainly against the quickly changing stream relationships. (During the high tide, the flow of the river will turn about at a great distance, as a rule for 100 Km). The most radical solution is the system of closed portal basins which is used for example on the Schalde in Antwerpen. No doubt, these portal basins allow the vessels to swim into the basin, and to leave it only at certain times (upon balanced water level in the basin and on the free river), but the equipment for the transfer of goods, and the vessel and portal manipulations, are simplified and quickened, because we deal almost with a steadily higher water level. For the waterways of the Elba-Odera river-net, larger influences of the oceanic high-tide are felt on the Elba in Hamburg only, and a few tens of kilometers above Hamburg. The Hamburg port is open, however, with the basins freely accessible any time, and the harmful streamings are rectified (continued on p.63)

* * *p.61) FIGURE 9: (full-page): Port with portal cranes and warehouse.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

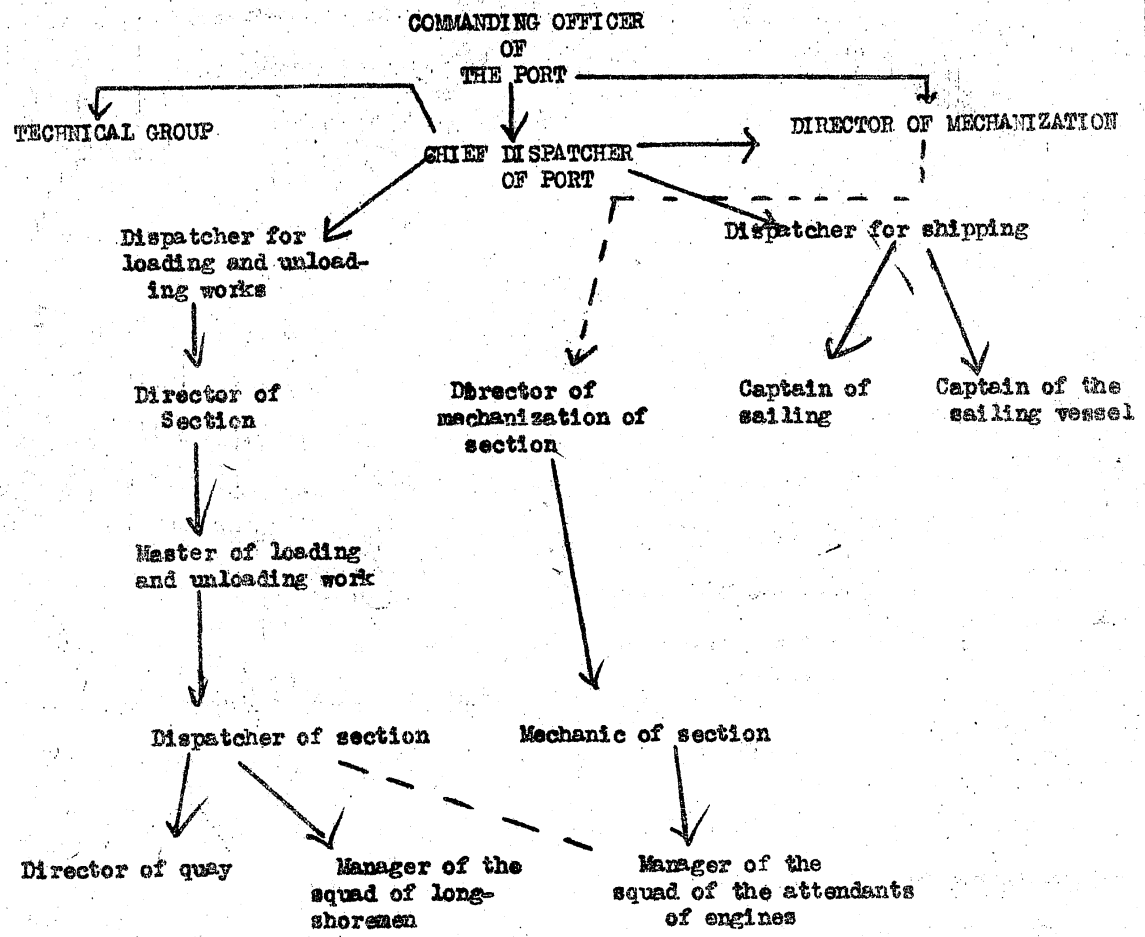
Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

* * *p.62)

9)

SCHEMA OF THE SOVIET ORGANIZATION OF PORTS

FOOTNOTE 9: SMOJLOVSKIJ N.I. Traffic in river harbors. Praha, State Pub.House of Techn.Literature, 1953.


COMMANDING OFFICER OF THE PORT
TECHNICAL GROUP
CHIEF DISPATCHER OF PORT
DIRECTOR OF MECHANIZATION
Dispatcher for loading and unloading works
Dispatcher for shipping
Director of Section
Director of mechanization of section
Captain of sailing
Captain of the sailing vessel
Master of loading and unloading work
Dispatcher of section
Mechanic of section
Director of quay
Manager of the squad of longshoremen
Manager of the squad of the attendants of engines

* * *p.63)

FIGURE 10: Port warehouse for grain(grain silos)

(text cont.from p.61) by different constructions and water technical equipments, which do not disturb shipping operation in the least. In Stettin, Braila, and Galaţi, the influence of the sea is felt considerably only when strong breezes are blowing from the sea.

Of the land equipments of the port, the most significant are the good communication, if the port should not be a part of the working concern. And then, the transportation of the substratum is taken care of either by funicular railway, by belt or transporter mechanisms, by conduit pipes and the like.

Formerly, the railroad transportation predominated among the transportation devices in the harbor. Today, it shares its significance with highway transportation.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

MECHANIZATION OF TRANSFER IN THE PORTS AND THE TRANSFER PLACES.

On the utilization of the vessel park, beside the commercial speed, the period of stay in the ports and in the transfer places has a decisive influence. The period of stay has two factors regularly. The first factor is the waiting for the unloading and /or the loading,

* * *p.64) either because the substratum is not prepared or dispositions are not given for the arrived goods, or because the transfer areas are occupied. The other factor is the time of transfer. We may reduce the time of transfer and the time of waiting for the transfer so that we increase the efficiency of the transferring equipments by appropriate mechanization.

Conditions of Mechanization.

With increasing the efficiency of the transfer equipments, the time of stay of the vessel in the port becomes shorter, and the efficiency of the port as such (in general) also increases, whereby the necessary constructional and other investments for enlarging the port are reduced, upon the growth of transportation. The possibly most intensive utilization of the transfer lines of the port is more exact than its extensive construction. For this,it is however necessary that the accomplishment of the equipment directly carrying out the transfer should be harmonized with the capacity of the railroad and highway transportations as well as of the river transportation, and that the work of the port should be administratively well organized. Among the most important conditions of good work of a mechanized port is a regulated operation, first of all then a regulated movement of the substratum and an accurate,symmetrically planned work for the individual transfer equipments.

F l o w o f w o r k i n t h e p o r t.- For the maintenance of current work in the port one must also remember to have sufficiently large dumping places and stores ,occasionally on the quay for temporary storage so that, at the insufficiency of transportation means, or even for a short duration, the transfer work should not stop, and thereby, first of all, the use of vessels and of the transfer facilities should not be lowered.

The Importance of Mechanization.

With the high mechanization of transfer and with a good organization of the transference work, the self-expenses of inland navigation are very substantially

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

reduced. Similarly, the working people are free of fatigue, and often also of the risks of work connected with the transfer of goods by hand.

Transfer Mechanisms. (Transfer mechanisms)

We divide (10) the transfer mechanisms into equipments working continu-

FOOTNOTE 10: NIKIFOR B.F. River ports. 1948, Rečizdat.

ally, fluently, and mechanisms working periodically at definite cycles. To the first group belong the loaders of all types:- belt loaders, bushel and screw-type lifters (elevators), pneumatic (sucking) lifters,

* * * p.65) FIGURE 11: Loading of bags onto the port ferry.

gravitational slides, cable routes, pumps. With this manner of work of this group, the transferred commodity is continuously arriving and is being delivered so. These mechanisms may have engine propulsion, or they may be also without it (e.g., the gravitationally emptied equipment force, slides for the loading of bagged goods, and the like, working without a supply of energy from the outside).

To the other group, to the periodically working equipments belong, first of all, the cranes, the transfer bridges with driving coach, cable cranes, overturners(pourers), lowering equipments, accumulator or motor carts, and the like. The equipments of this type take over the goods for transfer manipulation in definite doses and at definite intervals of time. The time which the mechanism requires for holding the goods, for carrying them over, letting them loose, and for returning for a new dose of goods, recurs in a cycle which has two phases:- a working phase and an empty phase.

Efficiency of the Transfer Equipment.

For the determination of the efficiency of the transfer equipment, two general formulas are valid. We determine the efficiency of the transfer equipment with continuous uninterrupted work according to the formula:

$$P = 3600 \times F \times v \times \delta$$

where P is the efficiency of equipment in tons per hour,

F is the area of cross section of the flow of goods transplaced by the machine

v is the speed of the working equipment in meters per second,

δ is the specific weight of a m^3 of goods in tons.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

If on the working equipment of the machine, doses of goods in equal amounts and at equal distances, i.e., also at equal times would be carried, then the following is valid:

$$P = 3.6 \frac{q \times V}{a}$$

where q is the weight of a single dose in kilograms,

a is the distance between the centers of the individual doses.

* * * p.66)

FIGURE 12: Transfer of grain from a river barge into a maritime vessel.

For the efficiency of the mechanism with working cycles, the following formula is valid:

$$P = 3600 \times \frac{Q}{T}$$

where Q is the weight of the piece of goods transplaced in one cycle in tons,

T is the duration of a single cycle in seconds.

For loose goods the following formula is valid:

$$P = 3600 \times \frac{\Psi \times e \times \delta}{T}$$

where Ψ is the coefficient of filling of the holding part of the machine, e.g., of a gripper, of a pail, and the like,

e is the volume of the holding part (capacity) in cubic meters.

* * * p.67)

FIGURE 13: (full-page): Transfer between river barges and maritime vessels by means of floating cranes.

* * * p.68) FIGURE 14: Modern double portal crane.

The work of a crane is facilitated by the most diverse transfer devices, e.g., chains with blunt and sharp hooks, chained or cabled loops, large hinged shovels and pails, nets, girdles, and the like. As a rule we divide the cranes into portal and semiportal cranes, which enable the passage of railroad vehicles under the crane's construction, also tracked cranes, bridge cranes, which are all limited to a certain distance. In contrast to these, the cranes for especially heavy loads, erected usually as outfitted cranes of the dockyard and also utilized for the transfer of different goods, are fixed. The mounted cranes would have a carrying capacity of 1.5, 3, 5, 7, and 10 tons, and, for the transfer of bulk goods with large specific weight

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

(e.g., ores),also of 15 tons capacity or more. The fixed equipped cranes have a carrying capacity of 250 or even of 300 tons. For particular conditions, in a few ports, floating cranes of very high carrying capacity are put up.

With cranes, the horizontal distance is important into which the crane can reach with the discharger. With a sloping bank and a fluctuating water level,

* * * p.69) FIGURE 15:(full page): Portal crane for the transfer of bulk goods (Loading of coal from the railroad car into the ship).

* * - - - - - - - - - - - -

* * * p.70) or when the transfer is from vessel to vessel, cranes with large stretch are especially well suited. In the most recent times, for mechanical reasons, cranes are built with horizontal movement of the load, which may help in the shortening of the working cycle, since the moving equipment can be used at greater speed. Modern technics have constructed many special equipments for the mechanization of the transfer of bulk and piece-meal commodities at great efficiency. The maximum achievements, at the transfer of ores and coal, amount to 1500 or to 3000 tons per hour, these are top hour achievements ,however, and not at all the average achievements of such equipments.In case of bulk goods, one may calculate however with a transfer of 200-300 tons per hour, in case of grains somewhat less, in case of piece goods -- from 50 to 100 tons per hour.

TIMBER FLOATING AND RAFT NAVIGATION

* *

For the transportation of timber, the waterways are used in a more primitive fashion than the vessels, namely, by raft-navigation and floatation of timber, both in the downstream direction only. There,where shipping operations are in progress, for safety reasons, timber must not be floated. Timber is floated downstream on the upper courses of the rivers whereby full use is made of the fact that the timber is floating on the water because it has a small specific weight.

If the river has (e.g., at the springtime thawing) enough water, timber as well as shorter logs and fibrous material can be rolled down to the stream from the stocks on the banks. The stream carries away this floating load to lower situated places where they are caught and then they are either pulled out to the shore for working them up (for cellulose, paper, or with the saw), or to further transportation, or the individual long timbers are arranged on the water, they are tied side by side into tables, into floats(twists),and these themselves into a raft.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The f l o a t a t i o n o f t i m b e r makes it possible to transport the produced timber also from places otherwise inaccessible for transportation, and it is therefore of great importance. At some places, special water basins are created by damming up the valleys where during the year water accumulates which is then let out at the time of the floatation of timber; thereby, a temporary waterway arises even in a valley where there are but otherwise unimportant creeks and torrents.

The r a f t n a v i g a t i o n rests upon the same principles as the floatation of timber. If the river has a sufficiently deep shipping route, the raft navigation can be quickened by towage with a tugboat. According to the width of the shipping route, wider floats are tied together, occasionally two or more rafts are connected side by side to each other. On the channelized tracts, the rafts are almost always towed; their width is determined by the width of the raft-culvert in the body of the lock, with a precaution for the necessary safety(margin).

The rafts are composed either at the places where the floatation of the logs ends, or at the places whereto the logs are carried by over-the-land routes: - by railroads

* * * p.71) FIGURE 16(full-page): Bridge crane

* * * p.72) FIGURE 17(full-page): Bridge crane over the loading site of loose goods.

* * * p.73) or on highways. A transition between floatation of timber and raft navigation is the f l o a t a t i o n i n f r a m e s, where the mutually not-tied logs are floating inside fixed larger wooden frames.

It is possible to put smaller amounts of goods on the rafts, e.g., further logs of coppice or fuel wood. One must take into consideration the admissible shipping depth so that the raft will not get stuck or it will not be torn to pieces. While, with the floatation of timber either free or in frames, human intervention is limited to the loosening of the eventually stuck pieces of wood, a raft is managed by a crew. The leader of the raft is the doorkeeper with whose help the sailors are rafters. The raft is managed by long oars, placed at the front end and at the rear end; its navigation is quickened by pushing with poles which lean against the river bottom, and it is stopped by an anchor or by a short stem which is affixed so that, upon contact with the bottom, it gets stuck, and thereby the movement of the raft is slowed down until the raft comes to a stop(so called Brek).

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The floatation of timber has great importance especially in the districts where there are large forests, e.g., in the U.S.S.R., in Scandinavia, in Canada. In our country, timber is floated in the upper courses of rivers, especially on the Vltava. Transcarpathian Ukraina is known by its water basins ("klauza") which are emptied so that the stream of water would carry along to the valley the wood gathered together in the late summer on the banks of the valley and prepared for floatation.

The most famous artificial waterway for the floatation of timber is in our country the so-called Schwarzenberg Canal in the Czech Forest (Šumava). However, there are also other relatively advantageous ways for the floatation of timber.

The Soviet transportational science introduces a few basic formulas for the floatation of timber and rafts which we then quote briefly.

The width of the navigable course for free floatation in frames (b) must be larger than the largest length (L_{max}) plus the safe margin (c) so that it should not come to sticking:

$$b = L_{max} + c.$$

For improved rivers it is calculated that $c \geq 1$ m.

The required depth of the shipping route (h) depends upon the maximum draught (H):

$$h = H + c.$$

The maximum draught is given by the largest diameter of the floating logs (d_{max}), the specific weight of the wood (α), and the coefficient of dimension (β):

$$H = \alpha \times d_{max} \times \beta.$$

The specific weight of the wood (α) can be taken as 0.75, and the coefficient of dimension ($H : d_{max} = s$), expressing the ration between the real draught and the diameter of the wood, is taken for 0.93. To the draught (H) a safety margin (c) would be added which, according to the character of the river bottom, moves between 15 cm and 25 cm.

* * * p.74) For raft navigation, the width of the shipping route must be at least

$$b_o = \sqrt{L^2 + B^2} + c,$$

where L is the length and B the width of the raft; the leeway for safety (the margin) (c) is taken for 1 to 2 m.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

For t w o - d i r e c t i o n a l t r a n s p o r t a t i o n, i.e., there where the raft-navigation already comes in contact with navigation, it is generally

$$b_o = 1.1 \left[(1.5 : 2.0)\, B_1 + B \right],$$

where B is the width of the raft, and B_1 is the width of the ship.

The t r a n s p o r t a t i o n a l c a p a c i t y o f t h e r i v e r (N) for the floatation of wood is proportionate to the filling of the water surface with floating timber ($\beta = 0.1 - 0.2$), the amount of the mass of timber on 1 m^2 of the filled water surface ($q = 0.87\ m^3$), the speed of the floating timber (v, in meters per day), the width of the shipping route (b_o), and the period of time using the shipping route (t) :

$$N = \beta \times q \times v \times b_o \times t \ (m^3 \text{ for the shipping period}).$$

In its construction the formula corresponds with the formula for the transportation work of a transportation girdle(belt), for which kind then the river is correctly considered.

To a small extent, raft navigation is carried out on the rivers Malsch, the Lužnice, Sázava, and on the Vltava. The utilization of the water streams for gaining energy also makes it expensive. In addition, the wood-working industry is constructing purposefully in the forest districts so that the transportation of log timber in general will sink. The rafts' harbor on the Smichova was designated partly for the wintering of rafts, partly the rafts are again tied together there for further way which earlier used to end as a rule at the wood-working establishments in the center of Germany. Today, round timber is not exported on the water at all. However, raft navigation has a large importance in the U.S.S.R. as a cheap way of transportation of timber on the large rivers and to large distances. Thus, not only the districts poor in wood are supplied, but also the ports specialized for the export of timber to foreign countries.

ADMINISTRATION AND ORGANIZATION OF INLAND NAVIGATION.

* *

As a basis of the management control of our national economy, and thereby also as a basis of the transportation and of riparian navigation, there is a State Plan available for the development of national economy which the government is laying down for each year. The government also considers the fulfillment of the State Plan on the basis of the reports of the ministries and of the State Planning Bureau which are

STAT

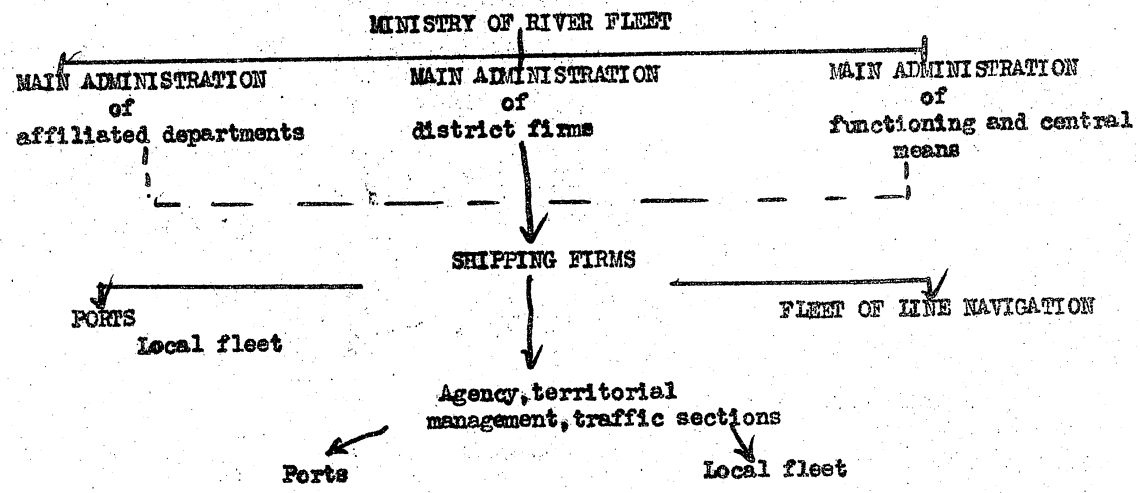
Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

being used for operative measures by which the resulted or menacing disproportions must be removed. In addition to this, later the State Bureau of Statistics works up the exact statistics and their analysis. 11)

* * * p.75) SCHEME OF THE SOVIET ORGANIZATION OF RIVER NAVIGATION

FOOTNOTE 11: SOJUZOV A.A.: Organization of works of the river fleet. Moskva, Rečizdat, 1950.



The Main Administrations of the district firms in the U.S.S.R. are the following: Main administration of central districts (8), of northern districts (6), of southern districts (5), of eastern districts(7). Numbers in parentheses indicate the mumbers of shipping concerns.

The Affiliated Departments are directing three main administrations: 1) Main Administration of the construction of wooden vessels, 2) of the industrial concerns, and 3) of inland waterways.

To the functional ingredients belong: Technical headquarters, transport, economical planning departments, work and wages.

* * -

The pertinent ministers are responsible for the fulfillment of the parts of the tasks of the State Plan which were accepted after a preceeding detailed discussion of the plans in the government. The Minister of Transportation to whom the care of the river navigation belongs, is directing it with the aid of the main administrations. In the entire main administration there is a director to whom

* * * p.76) are subordinated the following two concerns created according to the river districts:- Czechoslovakian Elba - Odera Navigation, and Czechoslovakian Duna Navigation. Both navigations have the form of national concerns. Since these two concerns are only in existence, the entire direction of navigation is concentrated in a single main administration at the Ministry of Transportation, pertinent for the entire territory of the State. To the main administration of navigation are also sub-

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ordinated the ports where this ministry is the direct investor, as far as its(the port's) construction is concerned. Its provision with equipment and the operation of [redacted] cartage is a matter of the pertinent shipping concern.

After the organizational establishment of a section of the local economy, the little cooperative and communal shipping firms went under the authority of the national committees, and thus under the authority of the Ministry of Interior. Their importance is rather recreational than transportational.

Beside these shipping firms, there are also found shipping operations in non-transportational concerns, e.g., the transport of gravel by some firms of the Ministry of Construction Industry, or by a few communal firms, the transportation of coal for the industrial concerns, and the like. Their works are determined by the State Plan directly, that is, according to the ministries; however, the majority can not come up to the requirements/demands of the Ministry, and, therefore, transportation by national shipping concerns is still required.

Some shipping affairs, so far as it is beyond the firms' framework, are not resolved by the main administration, but by the pertinent functional branch in the Ministry of Transportation. This is true also for international affairs, matters concerning costs, coordinational affairs, etc.

PLANNING OF THE RIVER TRANSPORTATION

* *

The planned economy makes it possible to determine the tasks for the individual transportational branches so that all the demands of economy on transportation would be covered, namely by this most economical way. The pattern for us is the planned economy of the U.S.S.R.

In the resolution of the XVIII.Meeting of the VKS (b) /1937/ the function of water transportation has been stressed as being at present a transportational branch of poorly exploited capacity; it had been stated that its share in the entire transportation work had to be increased. This directive still holds good today, and the planned development of inland navigation is quicker than the development of the rest of the transportation branches, with the exception of maritime navigation.

* C* * p.77)

Arrangement of the Plan of River Navigation.

A concrete plan of river navigation is based upon the plan of the material supply of the national economy, which for the main types of goods shows not only

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the demand and the source of supply but also their districts and, with the interdistrict movements, the used transportation devices. So far as in the required connection water transportation can be utilized, this transportation has precedence. For the shipping firms, for their transportation plan, a fixed task is determined for every five-year period, and according to this plan, which established the work of navigation, a technical operational plan is being elaborated which will indicate in which manner are fulfilled the determined transportational tasks. At the elaboration of the technical operational plan the exploitation indices of the fleet are being used, also the standards for the load, for the loading and unloading, the passports of the ports, the standards of consumption of operational substances, the work norms for portal workers, and the like.

The plan elaborated in detail is the foundation for the work of the entire fleet, of the ports, for cooperation with the transporters and with other transportational branches, and therefore one will pay attention to its precise observance and fulfillment. For the operative administrative control of this work the dispatchers are responsible, beside the directors of the concerns and of the factories.

The work plan of the fleet is so accurate that a sketchy time schedule could be elaborated for the movement of the barges. This is true also for the tugboats, for the engagement of portal sites, for the reparation of vessel bodies and of the engines, etc.

Indexes of River Navigation

In the river-navigation of the U.S.S.R., the average number of kilometers (Km) done daily by a single vessel is being planned, also the number of the transported tons per one HP and per one ton of the gross tonnage, the exploitation of the shipping period by actual runs(trips), the commercial and technical speed, and the average days of work of the vessel.

These indices equally indicate where the efforts for the economization of the operation and for the increase of the work of inland navigation have to be directed. It is the increasing of the speed of a trip, shortening of the time of stay in the ports, shortening of the period of repair, a minimum of non-producing trips, and a full utilization of the tonnage of the ship.

At the beginning of writing the plan, the indices must be determined, namely for every firm especially, and for the transport by cistern(tanker) barges and

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

by ordinary barges particularly.

From these indices, the required gross tonnage of vessels may then be determined for a definite volume of transportation in ton-kilometers, from the following formula:

$$N = \frac{E}{u_1 \cdot d_1},$$

* * * p.78) where N is the total tonnage of vessels in tons,

E is the transportational work in TKm

u_1 is the index of the average daily work of ONE ton of the gross tonnage,

d_1 is the length of the shipping period in days by subtracting the days of repair during the shipping period.

The total possible work of the fleet (V) may be determined this way (in TKm):

$$V = N \times u_1 \times d_1.$$

We may arrive at equal results if we should count the possible number of trips of the vessel during the shipping period according to the time of circulation of the barges(tour-retour). The time of circulation consists of the sum total of the times required for loading, for the run to the port of destination, for unloading, and for the retour to the port of loading. The ratio d_1 / d_2, where d_2 is the time of circulation, shows how many times the barges turn around during the shipping period; the by this coefficient multiplied tonnage would give the total number of tons which can be transported in the given relation by the given tonnage during the shipping period. This coefficient is identical in its absolute value with the index of the number of transported tons per ONE ton of the gross tonnage.

Under the simple conditions on the Elba and the Odera, when the number of the covered Km-s with load is almost equal each way, we may come out with this method. At calculating the work of the Duna fleet, it is also necessary to use the formula $V = N.x\ u_1 \times d_1$, or to count thus the transportational work in ton-kilometers, which must bring the element of transportational distance into the calculation. The average transportational distance is the estimated ratio of the transportational distances found in the examined period, or the ratio $\frac{\sum TKm}{\sum T}$.

Suppose that we have to transport:

to Bulgaria	30 000 T	to a distance of	1400 Km,	i.e.	42,000 000 TKm,
to Romania	20 000 "	"	1000 "	"	20,000 000 TKm,
to U.S.S.R.	5 000 "	"	1800 "	"	9,000 000 TKm,
to overseas export	30 000 "	"	1700 "	"	51,000 000 TKm.
TOTAL	85 000 T				122,000 000 TKm.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

and suppose that we have to transport

from Romania	50 000 T	to a distance of	1000 Km, i.e.,	50 000 000 TKm,
from Bulgaria	20 000 "	" "	1400 " "	28 000 000 TKm,
from U.S.S.R.	25 000 "	" "	1800 " "	45 000 000 TKm,
from overseas	15 500 "	" "	1700 " "	25 000 000 TKm
TOTAL	110 000 T			148 000 000 TKm.

The average transportational distance for IMPORT is 148 500 : 110= 1350 Km, for EXPORT 122 000 : 85= 1440 Km. We compare the entire work in TKm with

* * *p.79)

the transportational capacity of the fleet; we go out, however, from a higher transportational distance, so that we would have covered also the movement of empty tonnage, needed for directional non-export and for the spatially different occurrence of transportational demands.

Particular attention is to be paid to the planning of repairs, not only for an assurance of the concrete fulfillment of the plan of the dockyard, but also because we cannot count with the possibility that the entire repair would be carried out AFTER the shipping period, and that then the transportational capacity either in tons of gross tonnage or for the tugboats in HP would be lowered. Many repairs can be finished even during the runs, or during the stay in the ports while loading and unloading, or while filling up with supplies. If the attention of the ship's crew(of the sailors as well as of the engineers) would be directed upon this task, according to the experience of the Stachanov elite workers of Soviet navigation, the performance of a tugboat could be increased even by half. With planned repairs, attention must be paid to their shortening. Therefore, the method of exchanging everything (sectional repair) is especially important in navigation.

In the shipping circles, the index T/HP (calculated from the sum total of the space and the sum total of the traction power) is used in the sense that sufficient traction force is available for the firm only if the value of this index will wink to 10 tons per each HP, in other river areas to 8 T/HP. By the experience, the demand for traction power can be determined according to this index only there where the transportational relations are steady. So far as it goes from Kozel to Stettin only, and vice versa, this method has a value. However, as soon as e.g., in the Duna navigation, the index shows only that another shipping concern has more favorable, i.e., lower figure, then the valuation is very rough and approximative only, since the transportation work which the tugboats have to perform must be also compared, and this is not expressed in tons of gross tonnage of the vessel park, but in tons of kilometers of the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

transported goods. For the computation of the demands for tugboats P, the index TKm/HP (= u_2) is utilized then according to the formula:

$$P = \frac{\sum TKm}{u_2} .$$

Investment Plan.

The calculation of the demand for barge space or for traction force is giving suggestions not only for a discussion of the assurance of an unsurpassed work performance by means of the agreements on cooperation with other shipping concerns, e.g., by the hire of tugboats, but also for the direction of the investment plan. Under the conditions of the spreading socialistic reproduction, every concern has the certainty that the demands on its services will advance, and, according to this, then its long-range investment plan may be directed, too.

The investment plan of Soviet navigation differs from our investment plan of construction, first of all by its everlasting expansion. The dredgings, the regulation of the work, the building of locks, and of canals, the widening of the ports, and the construction of new ports here appear as methodical administration whereas in our country, for reason of cabinet pertinence (Minister of Construction Industry and not the Ministry of Transportation at all) these works are carried among the investments of the State administration. Our plans of construction, beside acquisition of new vessels and repair of old vessels, at the ports include only their equipment with track lines, cranes, and other transportational equipments, illumination, and the like, as also the equipment of the dockyards of the concerns. Peculiarities are our investment in foreign countries, e.g., the construction of a portal zone in Stettin or in Hamburg, their equipment with crane, and with the rest of outfit, etc. Here belong also the main repairs of our vessels done in dockyards of foreign lands, which have the character of transportation investments.

The Plan of Work and Plan of Productivity of Work

is given in substance by the Plan of the Workers' Places in the administration, by the required number of the crew on vessels, the engagement of the cranes, and the like. An increasing productivity of work results from better exploitation of the vessels, from the mechanization of transportation works, and from establishment of standards for the workers in the transportation and in the storehouses.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The investment plan of the Soviet navigation differs from our investment plan of construction first of all by its never-ending expansion. The dredgings, the regulation of work, the building of locks and canals, the widening of the ports and the construction of new ports here appear as a methodical administration whereas in our country, for reason of cabinet pertinance(Ministry of Construction Industry, * * * p.80) and not the Ministry of Transportation at all) they are carried out among the investments of State Administration. Our plans of construction, beside acquisition of new vessels and repair of old vessels, at the ports include only their equipment with trackings, cranes, and other transport equipments, illumination and the like, as also the equipment of the dockyards of the firms. Peculiarities are our investment in foreign countries, e.g., the construction of a portal zone in Stettin or in Hamburg, their equipment with crane, and with the rest of equipment,etc. Here belong also the main repairs of our vessels in dockyards of foreign lands, which have the nature of transportation investments.

The Plan of Work and The Plan of the Productivity of Work

is given in substance by the Plan of the Workers' Places in the administration, by the required number of the crew on the vessels, the engagement of cranes and the like. An increase in the work productivity will result from a better exploitation of vessels, from the mechanization of the transportation works and from the establishment of standards for the workers in the transportation and in the storehouses.

The problem of employing women in navigation is solved in the shipping operation much less than in the administration, at portal works and in the dockyards and even in the workshops where women are working well. However, there are no obstacles that women should not be more devoted also to shipping operations, and many women sailors, especially on the Duna and on the Odera, are a promising beginning of this.

The shipping operation requires relatively long period for obtaining the qualifications of a sailor who, again for at least three years (with vessels of self-propulsion for 4 years), must perform a practical shipdeck service before he is admitted to the examination for the guiding of vessels(helmsmanship, captaincy). Here, therefore, the fluctuation is made very difficult, the retirement of a skilled, especially practically skilled worker is an irreparable loss; the arrival of new workers from different occupational branches is restricted to the engine service and the administrative service. Even for the engine service on the vessels, however, which brings with

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

itself certain restrictions upon the elsewhere accustomed freedom of movement and boarding, there is need for considerable interest and devotion to this nice but difficult work which is accomplishing a very important function not only in transportation but also in the entire national economy.

In the new organization, the preparation of the specialists' cadres for navigation was taken over by the Ministry of Manpower in the schools of the State Workers' Reserve.

The Plan of the Material Supply.

in the concerns of inland navigation, is based upon the Plan of Works and on the standards of demand. The list of the kinds of goods is very extensive, since, beside the substances needed for operation and maintenance, it is required to secure also the supply of special, for the dockyards and workshops necessary material. At this it must * * * p.81) be distinguished what will be covered from domestic sources and what is being purchased abroad. In our navigation, where the predominant part of the line is in foreign countries, the convenient purchasing sources also are in foreign countries, for several substances, e.g., for steel and (sisalova) (?) cables in Germany, for the fuel oil and petroleum in Romania, and the like, this question is very important.

Today, we still cannot advance to such exact and important planning of river transportation as in the U.S.S.R. This is the reason 1) first of all why our waterways take only a relatively insignificant part in the domestic transportation of goods, and why they transport commodities predominantly in foreign transportation whereas in the U.S.S.R. it is the opposite. This is the reason 2) secondly that our plan of material supply is not sufficiently elaborated from the point of view of the districts, and 3) thirdly that we are only at the start of systematic elaboration and intelligent examination of the standards for a completely standardized performance. Through all these difficulties, which we must quickly overcome, we may considerably approach the Soviet pattern and we can also make use of its main principles by corresponding method.

Methods of Planning The River Navigation

The new science of methods for compiling the plan of the development of national economy, introduced by the Government in the year 1952, also brings a new method of planning for the river navigation. In the methodological hints and formularies

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

for compiling the State Plan of development of the national economy of the Czechoslovakian Socialistic Republic for the year 1954, the formularies 118 to 125 are devoted to navigation. In the hints it says:

The project of the plan of the transportation of goods and travellers on water is subject to the Ministry of Transportation. The projects of the plans of transportation are compiled according to the demands of the ministries of the transporters which are subordinated to the Ministry of Transportation. The requirement of transportation for import is announced by the Ministry of Foreign Commerce.

The technical economical indices of the utilization vessel park are determined on the basis of the average of the progressive standards, arrived at on the best ships. The requirement of vessels is calculated for tugboats in horse power, for cargo vessels and cargo ships of self-propulsion in thousands of tons.

The balance of vessels is fixed by the Ministry of Transportation, especially for tugboats, for cargo ships of self-propulsion, for passenger ships, for tanker ships, for cargo barges, and for service ships.

The ships which are in general repair are carried in registration status, but they are not included in the operational status. Vessels which are in current or ordinary repairs in docks, or vessels whose boilers are being cleaned are included in the operational status.

The utilization of vessels in units of tonnage days [12] or power days [13]

FOOTNOTE 12: Tonnage day is the unit representing ONE ton of gross tonnage in registration status for ONE day.

FOOTNOTE 13: Power day is the unit representing ONE horse-power in registration status of the tugboats for ONE day.

* -

* * * p.82) is counted on the basis of gross tonnage or of the power capacity of the vessel with regard to the period of time of commission or exclusion from the river transportation up to the end of the shipping period.

The plan of the utilization of the river streams and of the technical vessels is submitted by the Ministry of Transportation and the Ministry of Construction Industry.

The length of waterways is understood to be the length of the ways, navigable by ships in the Czechoslovakian Socialistic Republic, which will be in operation during the planned year.

In the project of the Plan, they cite the indices of the work of technical vessels carrying out the cleaning and the deepening of the shipping ways, of the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

entrances to the ports, and of the ports of industrial concerns and of constructions. The volume of excavated earth is determined in accordance with the prescribed profiles of waterways and with the capacity of the dredging vessels.

In the volume of loading and unloading works, the work of the transfer finished by the laborer forces and the devices of the Ministry of Transportation are included.

These methodical hints had been further worked up separately by the Ministry of Transportation and by the State Planning Bureau for the reason that, in the latest developmental phases of planning one might still not generally count on it that all planners would be familiar with the pertinent special literature of the Soviet, by which the workers in the river navigation of the U.S.S.R. are schooled.

All further ways of the project of the river-navigation plan, submitted by the Ministry of Transportation, are related to the new science of methods, namely:

The project of the Plan is submitted to the Government, and in copy to the State Planning Bureau. The State Planning Bureau will work out its own project of the plan, will compare both projects, and we will carry the better solution into the project of the State Plan which will be discussed by the Government. The State Plan, approved by the Government, is being communicated in writing to the individual ministries in its full complexity, i.e., the Plan of works and of the technical economical indices, of technical development, working, constructions, of material technical supplies, and the like, but also the pertinent tasks of the Ministry of Transportation from the Plan of Industrial Production where, e.g., a higher rough value(quota) of production in the dockyards, etc., is placed upon navigation.

Of these plans, the Ministry notifies its Main Administration, the Main Administration notifies the concerns which are in charge, and the concerns then notify the establishments. The establishments and the concerns, on the basis of the announced figures of the State Plan, determine their technical economical and financial plans by which they ascertain the reaching and the exceeding of those work quotas of the State Plan which fell upon them.

The mentioned eight formularies of methodical hints for the compilation of the project of the river-navigation plan are organized as follows:

FORMULARY Sect.118: The carriage of the goods and persons in river transportation;

Sect.119: The carriage of goods in river transportation, according to the individual ministries of the transporters;

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

* * *p.83) FORMULARY Sect.120: Technical economical indices of tugboats;

Sect.121: Technical economical indices of cargo vessels;

Sect.122: Balance of vessels;

Sect.123: Indices of use of river streams and of technical vessels;

Sect.124: Load and unloading in river ports;

Sect.125: Indices of development of river transportation on small rivers.

Here are then the following basic formularies:

carriage of goods and persons (118),
technical economical indices (120 and 121),
load and unloading in river harbors(124)
development of river transportation on small rivers(125).

The rest of the formularies serve rather for the substantiation and development of the data in the basic tables, and they bring in further details. If we should now discuss the individual formularies by indices, we'll see their mutual connection and support. We limit ourselves to the above mentioned tabulations of work performances only. At the pertinent places, the methodical hints will bring out, of course, further rules on different parts of the plan which, for the river transportation, must be also worked out by the Ministry of Transportation, as e.g., the rules on the Plan of Work, on the Plan of Self-Expenses, and the like. In principle however, we deal here with a plan of requirements common to all economies, and, therefore, it has no sense to bring up here the differences valid for navigation, without discussing the entire complex of problems.

FORMULARY SECT. 118:(Carriage of goods and persons in river transportation) shows the works of the river fleet for the national economy.It is determined for individual districts, corresponding to the shipping concerns, and then, in the entirety, for the Czechoslovakian Socialistic Republic. There are the following indices:

1. Total Amounts of Goods Transported By Czechoslovakian Vessels,

for this: liquid goods in tanker ships,
timber on rafts,
dry goods generally,
composed of this: ores, grains, and oily seeds, sugar, industrial salt, coal and coke, fertilizer, cement, other construction material, timber on ships, and others.

This division is necessary partly for balancing the requirements for ves-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

sels, which must be carried out particularly for tanker ships and particularly for the rest of the cargo vessels and for tugboats, partly for the judging of the composition of the substratum, which has in influence upon the construction of the vessel park. E.g., for the trans-

* * * p.84) portation of ore and coal, one may also use open barges, but grain, salt, cement, and sugar require covered space, etc. In our relations, very important is, of course, the knowledge not only of the direction of the transport but also of the place of destination, occasionally of the place of dispatching of the goods. Therefore, with the item "others", the direction downstream and the direction upstream is different; with other items, their nature is given:- in the foreign transport, a direction downstream signifies EXPORT, with slight exception, and a direction upstream means IMPORT. We are importing ores, we are exporting sugar, etc., entirely synonymously. Whether the question is about carriage inside the State or about carriage abroad, the next formular(Sect.119) will tell us.

2. Total Loading Work of The Transport,

for this: liquid goods in tanker ships,
timber on rafts,
dry goods.

If the amount was indicated in tons, the work is indicated in pure ton-kilometers. By dividing the work with the amount, we get a further index:--- the average transportation distance.

3. The Average Transportation Distance Generally(in Km)

for this: liquid goods in tankers,
timber on rafts
dry goods.

The carriage of timber on rafts is quickly losing its economical significance, especially by the creation of long delays at the high dams on the Vltava where the rafts have to be towed by tugboats(towage); thereby, the greatest advantage of raft-navigation falls away, that is to say, the carrying of floating timber by the force of the stream; of course, this change is very unfavorably reflecting upon the self-expenses. Though the calculation of the average transportation distance is seemingly easy, by experience it is very difficult, since for the establishment of the average transportation distance the work-performance in hour-tonkilometers must be accurately established. We will find out this work only by a detailed estimation according to the Plan of the Foreign Commerce, and according to the planned movements(especially of

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

construction material) inside the State. The following two indices refer to passenger transportation.

4. Number of Transported Persons.

5. Total Work Performance of Passenger Transportation.

In spite of the fact that in our country the volume of passenger transportation is not large and it is often performed by an antiquated vessel park and on navigationally difficult or unreliable sections, it has great significance for the recreation of the population. To be sure, larger attention will be paid in the future to passenger transportation, and if the Vltava tract south from Praha would be improved with a construction of the Modřan phase, it would become an important transportation expedient.

* * *p.85) FORMULARY SECT.119: (Transport of goods in river transportation, according to the individual ministries of the transporters) serves for ascertaining the demands on river transportation by individual ministries. The ministries are quoted by name:- M.of Foreign Commerce, M.of Fule and Energetics, M.of Construction Industry, M.of Interior, M.of Forestry and Wood Industry, and M. of Food Industry.

The Ministry of Foreign Commerce announces the demands for all foreign trade, then for import and export. Otherwise, the demands are announced as a rule on the part of the transporter only who performs the expediting, so that it would not come to duplication of announcements. The claims on domestic, intra-state carriage are announced by the other mentioned ministries either in the item "others", or still in specified statements. The Ministry of Fuel and Energetics announces the transportation of coal and coke, the Ministry of Construction Industry announces the transportation of cement and other construction material, the M.of Interior, as the central organ representing the national committees, communal concerns and local industry, announces the transportation of construction material, the Ministry of Forestry and Wood Industry announces the transportation of timber partly on rafts partly on ships, and finally the Minister of Food Industry announces the transportation of foodstuffs.

FORMULARY SECT. 120: (Technical economical indices on tugboats) has the values of indices for three types of tugboats:- for the transportation of dry goods, for the transportation of liquid commodities in tanker ships, and finally for the carriage of timber on rafts. The indices have a dif -

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ferent value according to whether the question is about towage of modern steel tanker barges or of the towage of rafts; then this organization is necessary. There are the following indices:

average load per ONE HP in both directions,
average technical speed in both directions,
average time of circulation of the traction vessel,
time of run with load in both direction in %-age of shipping period,
total time of run in both directions in %-age of shipping period,
length of shipping period,
work performance of ONE HP daily in TKm,
demand for traction vessels,
for this: ...for transportation,
. ..for portal service.

The formulary used to be worked out for the individual river districts, since the sum total data would not give the basis for the determination of the needed construction, because shipping conditions are different in the individual districts, and the vessel parks are not practically exchangeable among themselves. On the individual indices the following must be said:

The a v e r a g e l o a d p e r O N E HP i n b o t h d i r e c t i o n s is expressed in tons, and it is calculated from the amount of the tugboated goods either of the towing tugboat, or, for the vessel with self-propulsion, from the amount of commodities transported by it, divided by the average work performance of the traction vessels. To exclude the cargo vessel with self-propulsion from this calculation is impossible,

* * *p.86) since they are very frequently (on the Duna regularly) used as traction vessels. The tugboat tons are ascertained either statistically by the sum total of the pertinent records, or by calculation from the work-performance of the traction vessels in ton-kilometers, divided by the average transportation distance of the goods. The result will show how many tons of the transported goods fall on ONE horsepower. Of course, beside this, the tugboat must also transport the weight of the barges either loaded or empty. This work is expressed by the ton-kilometers roughly (to which no attention is paid; the index is by so much lower). The average work performance of the traction vessels is calculated by dividing the number of power days of the traction vessels in the shipping period by the number of calendar days during the same period. One p o w e r d a y is any calendar day when ONE indicated horsepower of the traction vessels was in the registration status. R e g i s t r a t i o n s t a t u s (or evidence) of the vessel means all the vessels which the concern had for disposal during the planning period; here belong them vessels

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

in operation and vessels in repair. The vessels which are hired do not enter into the registry status of the owner, but of the hirers. Not included in the registry status are the vessels designated for cancellation, so far as their cancellation had been already decided upon, furthermore the vessels in the course of rebuilding, and the ships permanently unfit to run the renovation of which is not calculated in the planned year. Generally, for the determination of work, we also count the indices with average registry status.

The a v e r a g e r e g i s t r y s t a t u s of vessels in a certain period of time is calculated if we divide the number of ship days in the pertinent period by the number of calendar days. S h i p d a y is every calendar day of the vessel which is in the dispositional jurisdiction of the firm.

The a v e r g g e t e c h n i c a l s p e e d w i t h l o a d i n b o t h d i r e c t i o n s is given by the number of kilometers done in an average day with the loaded barges, and it is calculated from the sum total of kilometers done with load, which we divide by the number of run days with load. Under a r u n d a y we understand every day when the vessel is displaced downstream or upstream either by self-weight or by towage or by its own engine power, independently from whether the vessel is loaded or empty. Movement in the port for loading or unloading does not count for a run. A s h i p ' s r u n d a y w i t h l o a d is the run day of a ship loaded or on tow.

The a v e r a g e t i m e o f c i r c u l a t i o n o f ONE t r a c t i o n v e s s e l in days(= the time of a round) is determined so that first of all the number of rounds of one traction vessel is calculated so that the number of concluded runs of the traction vessels is divided by the number of traction vessels in operation. For ONE total(concluded) round of the traction vessels is counted the hanging of narges, the run with the towage in one direction as far as the place of destination, without regard to whether the towage became less on the way, and the empty run without towage as far as the place of a new towage of barges for a run to a new station of destination. When thereafter we divide the number of calendar days of the planned period with the number of rounds of one traction vessel, we get the average period of a round for one traction vessel.

* * *p.87) The t i m e o f r u n w i t h l o a d (i.e.,in the loadsd state) i n b o t h d i r e c t i o n s is given in percentages of the shipping period. We obtain it from the number of the ship's run days with load,multiplied by 100, divided

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

by the number of calendar days of the planned shipping period, multiplied by the average number of traction vessels in operation.

The t o t a l t i m e o f r u n i n b o t h d i r e c t i o n s is calculated analogously; we take however the ship's run days as a who#le.

The l e n g t h o f t h e s h i p p i n g p e r i o d (shipping season) is determined in days, and it includes the annual seasons when navigation can be performed, then excepting the periods of freezing, of the departure of ice, of high waters, of low water levels, and the like. It is determined according to long-established averages, with regard to the introduced technical improvements which have an influence upon the water regime.

The w o r k p e r f o r m a n c e o f O N E HP d a i l y is expressed in ton-kilometers, and it is determined by estimation so that we divide the whole work performance of the traction vessels in TKm by the number of power days of the traction vessels during the shipping period.

The d e m a n d f o r t r a c t i o n v e s s e l s is quoted in HP, and it is derived from the total required work, the length of the shipping period, and from the work performance of one HP per day. Beside the demand for transportation, the need for portal service is also quoted, established by analysis of the work and by the caliber of the portal park of tugboats.

FORMULARY SECT.121: (Technical economical indices of cargo vessels, of cargo barges and ships with self-propulsion) classifies these indices into three groups:- 1) for loading of tanker barges, 2) for the loading of barges for dry goods, and 3) for ships with self-propulsion. Similarly as the previous one, this formulary serves for the determination of the demand for vessels. The following indices are available:

average load per ONE ton of gross tonnage in both directions,
average technical speed with load in both directions,
average time of one round of the cargo vessel,
the time of run with load in both directions,
the total time of run in both directions,
the length of the shipping period,
the work performance of ONE ton of gross tonnage daily,
the demand for vessels,
for this:...for transportation,
...for portal service.

The indices are estimated analogously as in the preceding formulary:

The a v e r a g e l o a d p e r O N E t o n o f g r o s t o n n a g e in both directions is determined by division of the number of the transported

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

tons by the average gross tonnage of the cargo vessels in registry status.

The a v e r a g e g r o s s t o n n a g e is calculated as the ratio of the tonnage days of the cargo vessels in the shipping period and the number of calendar days of the shipping period. T o nn a g e d a y is every calendar day when ONE ton of gross tonnage of the vessel was in the registry status. The gross tonnage is ascertained according to the latest marking of the cargo vessels.

* * *p.88) The a v e r a g e t e c h n i c a l s p e e d w i t h l o a d in both directions is determined in Km per day, and it is estimated from the number of kilometers done with load, divided by the number of the ship's run days with load.

The a v e r a g e t i m e o f o n e r o u n d o f t h e c a r g o v e s s e l is determined in days, and it is calculated in this way:- first of all the number of rounds of one cargo vessel is counted for the period so that the number of portal cargo vessels for loading is divided by the operational status of vessels. The o p e r a t i o n a l s t a t u s of a vessel is calculated from the number of ship days in operation, divided by the number of calendar days of the followed-up period.

S h i p d a y s i n o p e r a t i o n are the ship days generally after subtracting the ship days in main repair. Should we have to determine the number of rounds per period, we can calculate the average time of duration of one round so that we divide the number of calendar days in the shipping period by the number of rounds of one cargo vessel.

The t i m e o f r u n w i t h l o a d i n b o t h d i r e c t i o n s is shown in percentages of the shipping period, and it is calculated so that we divide the number of the ship's run days with load, multiplied by 100, by the number of calendar days of the shipping period, multiplied by the average operational status of the cargo vessels. The total time of run in both directions is estimated similarly, but it results from the number of the ship's run days in general.

The w o r k p e r f o r m a n c e o f O N E t o n o f t h e gross tonnage p e r d a y is shown in TKm, and it is ascertained so that the total work in TKm is divided by the number of tonnage days of the cargo vessels in the shipping period.

The d e m a n d f o r v e s s e l s f o r t r a n s p o r t a t i o n the is ascertained according to the required work performance in TKm, the length of the shipping period and, the work performance of ONE ton of the gross tonnage per day. It is given in tons.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

FORMULARY SECT.122:(Balance of vessels) serves for the comparison of the demands which were ascertained by the preceding formularies for cargo vessels, tugboating,and for portal service,with registry status. This also results from the registry status at the beginning of every planned year. The total and the average growth by construction of ships, byt their renovation, the growth from other sources(e.g. by purchase) and generally, is determined, the decrease(waste) is discounted) and the registrry and operational average status will result for the planned year, and the registry status at the end of the planned year. By the formulary, for tugboats the number of vessels as well as their capacity in horsepowers is shown, for cargo vessels the capacity in tons, and for passenger ships the capacity in occupied places.

It is obvious that these balances are carried out for each river district separately, and that they are in conformity with pertinent data of the plan on investment construction and on general repairs.

FORMULARY SECT.123:(Indices of exploitation of river streams and of the technical vessels) is divided into two parts:

* * * p.89) A.Length of waterways:

The length of the waterways used by the shipping concerns of the Ministry of Transportation in the Czechoslovakian Socialistic Republic,

the length of waterways in the Czechoslovakian Socialistic Republic provided with navigational marks,

for this:... with lights,
... with guaranteed shipping depth.

B.Utilization of the Technical Vessels:

Volume of excavated earth in m^3,
Number of dredges and earth pumps,
their total work performance in m^3,
time of the work of engines in a year in days,
use of working time in %-age,
use of engine productivity in %-age.

At the first part of the formulary is given the length of the navigable sections of the Vltava from Stechowitz to Melnik, of the Elbe from Kolin to the State boundary line at Herrenschrecken, of the Duna along the length of the Czechoslovakian left bank, then from Dévény to Szob. After the reconstruction and removal of war damages, the Otrokovice-Rohatec shipping and irrigation canal will also belong here. The navigation on the Odera is not indicated here at all, just so as are not the other waterways on which the Ministry of Transportation, with its concerns of navigation, undoubtedly operates, but which are outside the territory of the Czechoslovakian State.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Since the maintenance of navigability and the rest of the hydrotechnical works, according to the modern distribution of competence, is being taken care of by the Ministry of Construction Industry, [redacted] of this formulary is also realized.

FORMULARY SECT. 124:(Load and unloading in river ports) has the following indices:

loading and uloading carried out by the forces and means of the Ministry of Transportation,
coefficient of elaboration,
volume of work in tons-operating,
mechanized and hand transfer,
percentage of mechanized transfer.

The total amount of goods transferred in Czechoslovakian river barbors is not indicated by this formulary, but only that amount which the forces and means of the Ministry of Transportation had transferred in these ports. As a supplement of this formulary serves the report on the number and use of the mechanical devices in the ports according to their types. The work performance here planned does not then include, e.g., the transfer by means of cranes, or by other transfer equipment of ships, the transfer by the equipment of industrial firms

* * * p.90) and the like. Concerning the total transfer in our ports we are then informed by the pertinent statistical records only.

L o a d i n g a n d u n l o a d i n g is entered in tons, namely as one only; at the export then the loaded amount is entered; at the import and in the intrastate transport, the unloaded amount. Thus, it is indifferent whether the question is about own vessels, hired vessels, or foreign vessels. This regulation of course leads to the practice that in intrastate carriage the transfer work is not fully indicated. On the other hand, it must be said that the majority of goods transferred in such intrastate carriage(constructional) is loaded by the means and working forces of the Ministry of Construction Industry, or the Ministry of Interior(regional national committees, communal firms), e.g., the dredged sand and gravel, the gravel and stone from the quarries, etc.

The v o l u m e o f w o r k in tons-operating shows the experienced volume of work of the transfer workers and equipments. Transfer may be either direct, between two transportation devices, e.g., from a barge to a railroad freight car, to automobile, ot other barges, to the store of the consumer, OR indirect. At the indirect transfer, the transference process is interrupted by interstorage, or still for any other reason, and the unloaded or loaded goods must be again transferred. In the majority of cases, an indirect transfer is brought about as a result of unsatisfactory

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

coordination, either in carriage or at the marketing, which makes the transportation more expensive and the coefficient of elaboration is then the qualitative index.

The c o e f f i c i e n t o f e l a b o r a t i o n is given in %-age, and it expresses the ratio of the tranferred amount of goods to the volume of tons-operating. The higher it is, the more often it was necessary to transfer the goods.

The v o l u m e o f m e c h a n i z e d a n d m a n u a l t r a n s f e r is given in tons-operating which has a significance especially at complicated mechanization of the transfer works in the ports. The manual transfer is characterized by insufficiency of the energetic equipping whereas, at the mechanized transfer, also when it is impossible to exclude human work ~~of~~ of course, exceptions are when this is made possible, as for instance at the unloading of grains by means of an exhaustor into the granary silo, at which workers may be limited to control of the mechanism only/ -- first of all, steam engines, electric, hydraulic engines and the like are used. (With cranes, transportation belts, transportationcarts, bushel elevators, lifts, and the like).

The p e r c e n t a g e o f m e c h a n i z e d t r a n s f e r is calculated from the ratio of the mechanized tons-operating to the total volume of tons-operating.

FORMJIARY SECT.125: (Indices of development of river transportation on small rivers) is meant to stress the importance of navigation on those smaller streams which do no belong to streams or sections of streams where transportation is carried out by the firms of the Ministry of Transportation. The question is here, in the first place, about navigation performed by the Ministry of Interior, Ministry of Construction Industry, occasionally also by the Ministry of Forestry and Wood Industry. This index has the following:

the total amount of transported goods (composed then of grains, coal and coke, construction material, timber on ships, and on rafts)
the number of transported passengers,
the total work performance of passenger transport,
status of the traction vessels by pieces and HP,
status of cargo vessels by pieces and gross tonnage in tons,
use of the traction vessels,
use of the cargo vessels,
time of utilization,
length of utilized waterways.

These indices are familiar to us already from the above mentioned formulary for the so-called "large" navigation. It must be said however that, by the carriage of passengers then, not a transport from one bank of the river to the other is understood, but navigation along the length of the stream or on the lake, on the water basins, and the like.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The s t a t u s o f v e s s e l s a n d t h e i r c a p a c i t y are given in the average for the shipping period. The t i m e o f u s e is equal to the shipping periods in the strictest [redacted] i.e., that the number of days shows when the waterway has been made actual use of by the navigation. This must not be them, as it is at the large rivers, a full number of days when navigation was technically possible. This difference then must be made because some streams can be used, e.g., for raft navigation, in regard to the seasonal character of mining and the downstream travel of the timber, for only a short time during the year.

U s e o f v e s s e l s is given by the average work performance in TKm per ONE power day or ONE tonnage day.

The l e n g t h o f t h e w a t e r w a y s for the streams is stated by the river kilometer reading, on vast surfaces of water by the length of the regularly operated line, occasionally by the length of the shipping route. All indices for the development of river transportation on small rivers are shown by districts.

In addition to the methodical hints in the chapter "Transportation and Communications", river transportation is also discussed in two formularies, namely Formulary Sect.135(Indices of development and use of lines), under Point III "Indices of Use of Communication Lines in River Transportation"; the total length of the telephone and telegraf communication circuits, the performance of the telephone exchange, expressed by the number of actual calls, part of this in automatic centers, where data are shown about the water lines. Without an efficient own communication equipment neither the railroads nor the river navigation can do, since their tracts frequently lead far away from the public telephone network; moreover, it is constantly more obvious that a perfect communication between the services of the shipping firms and their lines is one of the basic conditions for an improvement of the entire water fleet.

Furthermore, there is still Formulary Sect.138(:Calculation of the carriage of goods of the Ministry...), where the total demands on transportation are divided according to the demands for transportation by railway, highway, and rivers. That methodical hints are also included in other parts of the regulations about river transportation

* * *p.92) so far as planning is concerned, for example, of the work of the self-expenses, we have already mentioned in the introduction to this chapter.

The planning in inland navigation has also to make sure tha unity and coordination of the development of economy, and therefore it must answer the demands

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

of the growing industrial and agricultural production and the demands of commerce. In the plan, a full support must be expressed for the main branches of economy, such as smelting, chemical industries, and the like, which determine the tempo of development for the entire national economy. The plan also states the most suitable division of transportation work among the individual transportation branches; it excludes the uneconomical carriage, and it makes safe the accurate ratio of inland navigation to other kinds of transportation.

By the high tasks of the plan, further great reserves of work performance must be uncovered, the demand of operational material reduced, the use of vessels increased, the self-expenses reduced, and the service of the transporters improved. The plan determines the installation of new technocs, first of all the motorization of vessels, and the mechanization of the transference work. To its aims, the creation of tariffs must be also subordinated. An accurate plan, i.e. , a plan announced directly, is a binding obligation as well as the basis for its mastering by socialistic competition, innovations, and the Stachanov methods of work. In the river navigation of the Soviet Union there are many celebrated names of individuals and many crews of steamers which have excellently mastered the existing standards and increased the operation times and the work performance by 30% - 300%.

The Plan of Foreign Transportation.

The basis of the Plan of Inland Navigation is the Plan of Foreign Transportation which the Ministry of Foreign Commerce compiles. This plan gives first orientation about the amount of goods which will be transported, and about the directions of transport. By comparison of the amounts of transport with the possible work performance of navigation, we obtain the wanted load of navigation. The results of this comparison may eventually have strong influence upon foreign transportation.

Let us illustrate this by an example:

On the Elba, there are 100 barges in operation, on the Odera 50 barges. Their average gross tonnage is 500 T. If during the shipping season, one T of gross tonnage of the barges would transport 5 tons of goods on the Elba to Hamburg, or, through the Braniborsk waterway to Stettin, and 6 tons of goods when transporting on the Odera, then, with an average length of the shipping season and average navigability, the transportational capacity for the Elba is 100 x 500 x 5 = 250 000 T(figures are taken at random ,and they do not represent experience), for the Odera 50x500x6 =

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

= 150 000 T. According to the Plan for Foreign Commerce, we must transport to Hamburg 120 000 T of goods, to Stettin on the Elba 60 000 T, to Stettin on the Odera 10 000 T and vice versa (in the reversed direction [redacted] on the Elba 150 000 T, from Stettin on the Elba 5000 T, and from Stettin on the Odra 200 000 T. We recapitulate these data and the from them resulting deficit or surplus in the following tabulation:
* * * p.93)

	CAPACITY	DEMAND	DEFICIT	SURPLUS
ELBA:				
downstream	125 000 T	120 000		
		60 000	55 000	
upstream	125 000 T	150 000		
		5 000	30 000	
ODERA:				
downstream	75 000 T	10 000		65 000 T
upstream	75 000	200 000	125 000	

Should we have to get a balance, we will reason as follows:- Politically more important is the way through Stettin than through Hamburg. Therefore, at the navigation on the Elba we cover the full demand of transportation to Stettin, i.e.,60 000 tons, and the remaining 65 000 tons are for disposition to transport foods to Hamburg. However, from Stettin on the Elba there is a fixed load of 5 000 T only, which would mean an irresponsibly uneconomical use of the barges. Because the volume of transportation of goods from Hamburg(150 000 T) would exceed the remaining capacity(65 000 T) by 35 000 T, it is again ascertained whether some imports,planned in maritime transportation to Hamburg, could be carried to Stettin. This is as a rule possible with the transportation of bulk goods and with the import from Scandinavia and from Finland. Should we succeed to carry an additional 35 000 T this way, we may say that by river navigation we shall carry --- under the assumption of a symmetrical time distribution--- in transportation from the Northern Czech Elba ports to Stettin and in the opposite direction 40 000 T, in the connection on the Elba to Hamburg and in the reverse direction 85 000 T. Thus, the navigation will be most easily balanced. The remaining substratum, namely in export on the Elba to Hamburg in the amount of 35 000 T (i.e., 120 000 T - 85 000 T), and in import from Hamburg in the amount of 65 000 T(i.e., 150 000 T - 85 000 T), will be the subject of discussion with the navigation of the German Democratic Republic. Should it be impossible to get the required space, then we shall further endeavour to direct the export and import to the port of Stettin or to

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

the Duna. The shifting of export to Stettin through the Odera is urgent, the more so because there is a great imbalance between the downstream(10 000T) and the upstream (200 000T) substratum. Should we fully balance the Odera barges upstream, an excess of 125 000 T of substratum will remain in Stettin, and a deficit of 65 000 T of the substratum in Kozel. For the better use of vessels, the Odera navigation tries its utmost to place its transportational capacity abroad, e.g., so that it offers the capacity of Poland to carry away the coal to Stettin whereupon the Polish navigation(which has priority for the downstream loading of coal) will provide for the carrying off the excess of our upstream substratum--- e.g., ore. The unplaced surplus of substratum must be transported on the highways.

This very much simplified example shows intuitively, how, during the entire shipping season, it is essential to adopt rigorous measures so that the full opportunity would be completely utilized. Therefore, close cooperation of navigation is needed with thw foreign

* * *p.94) commerce(METRANS and CECHOFRACHT). Therefore, beside the quarterly transportation plans, monthly plans are also compiled which, at least once a week, the Ministry of Transportation and the Ministry of Foreign Commerce control and operatively coordinate. At the determination of the plan, we must still watch for numerous other circumstances which, in our example, we have passed over in silence, e.g., whether the barges are open or covered, how large is the urgency of transportation, how great are the possibilities of storage, and the like. Important is also that, with sufficiency of substratum and with good shipping conditions, the transportational capacity is actually much higher since the indices of use of tonnage can be substantially improved. With the determination of the plan, the problem of foreign transportation is not yet finished, but thereby the endeavour to fulfill the plan has just started.

Had the transportation plan been determined this way, the works are outlined in tons and in ton-kilometers for the individual vessels, whereby about 5% to 10% more can be announced than determined by the original plan. According to the work performance of the barges, the performance of the tugboats is determined by a corresponding method which is announced to the individual tugboat with a view to planned repair. The announcement both by barge and by tugboat is carried out in conformity with the indices of the use of loading space and towing force which are determined by the Government.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Conditions of Working and Wages.

* * * * * * * * * * * * * * * * * * * *

The w o r k i n g a n d w a g e c o n d i t i o n s of the workers in the Czechoslovakian navigation are regulated by the Joint Working and Wages Rules of the Elba, Odera and Duna navigations which dates back to the year 1951.

In this w o r k i n g r e g u l a t i o n the principle of a 48-hour working time per week is asserted. Overtime work may be balanced by supplementary leave, or a lump-sum compensation may be arranged for it. With the sanction of the Ministry of Transportation, premiums can be offered for increased work performance(if the work would not call by its nature for a reclassification), and premiums for economy. The wages rule also solves the problem of compensation of expenditures at sudden indisposition or death of the employees in foreign lands, at the way on leave of absence and backwards.

The individual shipping concerns have established their own j o b r e g u l a t i o n s. For the Elba long-distance navigation, the following regulations are valid for the payment of the crew:

In the job, the run between stations is paid by the time of the movement of the vessel, beginning with the composition of the towage in the initial harbor, and ending with its carriage to the place of destination(including traffic delays). Other delays are not included in the job work, and they are charged to the time wages(crash, high water, and the like).

The u n i t s o f w o r k p e r f o r m a n c e are ONE barge-kilometer and 1000 technical ton-kilometers. This work performance is temporarily standard for each individual vessel. Vy the example of the Duna navigation, 1000 technical TKm-s are called "kilat"-s. The standards for tugboats pay for each run downstream and upstream,

* * *p.95) with barges the run upstream in towage differs (with a coefficient of difficulty), from the run downstream in towage (without a coefficient of difficulty), and from a run by self-weight(also without coefficient). The c o e f f i c i e n t o f d i f f i c u l t y equals exactly the distance covered by the tugboat with the tow, when the different degrees of difficulty are considered at the individual sections of the line. For the determination of the coefficient, the Hamburg-Magdeburg line was taken for basis whose difficulty was called the unit. For the Magdeburg-Dresden line a coefficient of difficulty of 1.7 was established; for the Dresden-Tetschen section,

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the coefficient is 2; for Tetschen-Aussig, it is 2.3; and for the channelized line it is 1.3(here the delay at the running through the chambers of the locks is considered).

The work performance of the tugboats in calculated ton-kilometers is estimated by the product (N+e).L.K, where N is the load of the towed barges in tons, E is the equivalent of the towed barges (for every vessel individually determined by measurement or calculation; it approximately corresponds with the value 1.2 x C where C is the gauged gross tonnage). With barges of wooden bottom, the result is increased by 20% - 1.44 x C. L is the number the covered Km-s, and K is the coefficient of difficulty of the line upstream. With a run downstream, this coefficient is used on canalized lines only.

With cargo vessels of self-propulsion, coefficients of difficulty are not used because these vessels drive through the entire line. Should however these vessels go on the canalized line, the coefficient 1.3 is used for their run downstream and upstream. Their "kilat"-s are obtained if the covered kilometers are multiplied by the sum total of the self load and the load of the towed barges and also by the own equivalent of the towed barges.

Should the tugboat go without towage, the own equivalent of the tugboat is multiplied by the covered kilometers and by the coefficient of difficulty.

The work performance of the barges, at a run upstream, is calculated by multiplying the covered Km-s with the coefficient of difficulty. At a run downstream, the work performance of the barge is equal to the covered Km-s.

The established standard is also expressed in money. With a tugboat, one proceeds so that the wages of the entire collective per hour, increased by 10%, are divided by the performance standard for one hour; thereby, the payment in Czech crowns per ONE kilat is obtained. For the barges, the payment is determined by a similar method, per ONE barge-kilometer; thus, one must watch the prescribed occupations/positions(jobs) of the barges. If then the performance standard would be equal, the money standard will change according to the prescribed size of the crew.

The basis for the calculation of wages is the record of the work which is led on every vessel, always for a monthly period. The task is collective, and the payment is distributed to the members according to a key established in advance. For overtime work between 8 and 22 o'clock, a 25% extra pay is paid out; for night work, between 22 and 6 o'clock, and for Sunday work, 50% of the ruled job rate.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The tabulation of technical economical standards of vessels with self-propulsion has, e.g., the following data:

TUGBOAT - Kolín; standard [redacted] kilats per hour 28; job rate * * *p.96) in Czech. crowns per 1 kilat...6,60; organized working places:-captain, first helmsman, second helmsman, 2 sailors, machinist, first stoker, 3 second stokers, number of members of the crew...10.

BARGE - Category II; organized working places:-helmsman, sailor, deck-sailor; gross tonnage...500 to 750 T; performance standard in barge kilometers per hour upstream...5.5; rate in Czech. crowns per barge-Km...7.60; downstream...9.2 barge Km; rate...4.60 Czech crowns; self-weight...4.2 barge-Km; rate..12.50 Czech crowns.

The share of the individual members of the crew in the job profit in % , in the above quoted examples is: In the tugboat: captain 14.5; I.helmsman 11.3; II. helmsman 9.5; I.sailor 8.3; II.sailor 7.5; machinist 13.2; I.stoker 9.3; II.stoker (3 times) 8.8.

On the barge on towage: - helmsman 47; sailor 38; deck-sailor 15; on barges under self-weight 50; 35.5; 14.5.

The payment which would fall upon an absent member of the crew is distributed at even parts between those members of the crew who had to replace the absent man by their increased work performance.

Transfer works are also jobbed to the widest extent, namely according to the method of the transfer, the transfer equipment, the kinds of goods, and the size of the working squad. E.G., for iron pipes 7 m long, for tranferred chain from open railroad cars, the 5th group is valid, which has a rate of 10 Czech crowns per ton, time 0.480 hour per ONE ton, and per one worker. With the transfer of this merchandise 6 loaders and a craner are working on the job, and they transfer 100 T per shift.

The Plan of Wages and Payments

(Plan of the Wages Fund) follows the socialistic principle of payment according to merit, and the principle of always stressing the part of the leading workers, whereby it is looked for that the increase of the paid-out wages of whatever title should not surpass or even just reach the increase in work productivity.

At a criticism of the absolute level of the wages of workers in river navigation, we have to take into account that only the administrative and the portal workers have normal working periods and normal working conditions, while the worker emp-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the coefficient is 2; for Tetschen-Aussig, it is 2.3; and for the channelized line it is 1.3(here the delay at the running through the chambers of the locks is considered).

The work performance of the tugboats in calculated ton-kilometers is estimated by the product (N+e).L.K, where N is the load of the towed barges in tons, E is the equivalent of the towed barges (for every vessel individually determined by measurement or calculation; it approximately corresponds with the value 1.2 x C where C is the gauged gross tonnage). With barges of wooden bottom, the result is increased by 20% - 1.44 x C. L is the number the covered Km-s, and K is the coefficient of difficulty of the line upstream. With a run downstream, this coefficient is used on canalized lines only.

With cargo vessels of self-propulsion, coefficients of difficulty are not used because these vessels drive through the entire line. Should however these vessels go on the canalized line, the coefficient 1.3 is used for their run downstream and upstream. Their "kilat"-s are obtained if the covered kilometers are multiplied by the sum total of the self load and the load of the towed barges and also by the own equivalent of the towed barges.

Should the tugboat go without towage, the own equivalent of the tugboat is multiplied by the covered kilometers and by the coefficient of difficulty.

The work performance of the barges, at a run upstream, is calculated by multiplying the covered Km-s with the coefficient of difficulty. At a run downstream, the work performance of the barge is equal to the covered Km-s.

The established standard is also expressed in money. With a tugboat, one proceeds so that the wages of the entire collective per hour, increased by 10%, are divided by the performance standard for one hour; thereby, the payment in Czech crowns per ONE kilat is obtained. For the barges, the payment is determined by a similar method, per ONE barge-kilometer; thus, one must watch the prescribed occupations/positions(jobs) of the barges. If then the performance standard would be equal, the money standard will change according to the prescribed size of the crew.

The basis for the calculation of wages is the record of the work which is led on every vessel, always for a monthly period. The task is collective, and the payment is distributed to the members according to a key established in advance. For overtime work between 8 and 22 o'clock, a 25% extra pay is paid out; for night work, between 22 and 6 o'clock, and for Sunday work, 50% of the ruled job rate.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

loyedon the long-distance vessels have a prolonged working period. Were these workers outside the ports, and were they unable to return daily to their homes, they must provide themselves with boarding, and they are dependent on what is being cooked and what they succeed purchasing.

They do not have regular free days either, or Sundays, since the shipping operation is uninterrupted. Besides, these workers have great responsibility not only for the delivery of the vessels and goods, but also a political responsibility, since the majority are moving beyond the Czechoslovakian boundaries, and their conducts must be exemplary in every respect.

It is clear that in river navigation it has been yet impossible to have all works classified, and therefore, beside the job wages, there are also premiums and time wages.

* * *p.97) Moreover, the wages regulation quotes many different extra payments by which the temporary difficulty of the work is evened out, e.g., at the transfer of certain types of goods, at works on foreign vessels, at the run under self-weight without a pilot, etc.

The e d u c a t i o n of expert young people is assured by selective schooling for helmsman and captain examinations in which the sailors may participate after the absolutorium of the prescribed sailor's practice.

Formerly, somewhat different principles were valid for the Duna navigation. Only a ship cadet could become a captain; for admission to the post of a cadet, however, an examination of maturity was required (graduation from gymnasium). On the Elba and on the Odera, the captain's position was practically taken by the first helmsman. Today however, even for the Duna helmsmen, it was made possible to finish a capitancy course and, after passing the prescribed exams, to obtain the honor of a commander.

The courses are taking place in winter, during period of the stoppage of navigation or of a weak traffic.

_The_Plan_of_Self-Expenses_

is derived from the Plan of Work Performances and the Plan of Material Supply, Works, Repairs and Construction, harmonizing with it. The demand is a constant lowering of the self-expenses, because transportation costs are an important factor in the entire self-expenses of production and services. Since transportation does not work up any raw material in production, the factor of self-expenses of transportation differs from the factor of self-expenses of industrial production by higher proportion of the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

personal costs(up to 50%) and by a higher proportion of the expenses for fuel(according to GALICKIJ[14] these expenses in navigation make as much as 15%).

FOOTNOTE 14): GALICKIJ A.Planned socialistic transportation.Praha, Industr.Publ.House,1951.

It is obvious that writing-offs are also higher because the lands,the buildings,and similar long-range components of basic funds have not such a significance for navigation as have the vessels and the machine equipment of the ports, of the transfer places,and dockyards.

The Plan of Investment in the U.S.S.R. also includes the building of waterways. It is therefore necessary to remark that,even in the U.S.S.R.,the maintenance of waterways is not a component of the self-expenses of river navigation,but it is directly reimbursed from the State budget.

A part of the Plan of self-expenses is also the c a l c u l a t i o n o f s e l f - e x p e n s e by single units of the transportation work.The final product of navigation is,of course,the ton-kilometer(or passenger kilometer).By dividing the total costs with the number of ton-kilometers from the Plan of Work Performances, the development and the influence of the individual operational factors would not be ascertained; and therefore, the calculation must be carried out also for those partial works(details) whose summation will give the transportation work performance only. There are,for instance,

* * *p.98) expenses by one barge-day and one tonnage-day, by per-hour work of the tugboat, at the transfer of different kinds of bulk and piece-meal goods where many types of expense must be counted by these units of estimation according to a definite key. Only then will it be possible indeed to accurately determine also the tariff for transportation and for the transfer of goods.

In his article[15] TILLINGER differentiates the following elements as having influence on the height of self-costs:

FOOTNOTE 15: TILLINGER Tadeusz: Drogi wodne(Waterways) Warszawa,Pub.House of the Techn.Ministry of Communication,1948.

a) TECHNICAL CONDITIONS,expressed by the index TKm per HP of traction power for the unit of time.In this index,all technical conditions are collectively taken which are helping,or making difficult the transportation.There is the efficiency of the boiler and of the driving equipment of the tugboat,the run's drag of the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the barge, the run's drag characteristic for a given waterway (it depends on the depth, width and the section of the waterway), and the speed of the stream.

b) The SHIPPING CONDITIONS are determined first of all by the length of the shipping period, the number and duration of high waters which make navigation difficult, or by the shortage of water, the height of the bridges above the water surface of the river, by the average percentage of use of the gross tonnage of the barges for reason of insufficient shipping depth; important is also the directional balance of the transport --- the ship space required for the transportation of goods in one direction does not have as a rule a sufficiency of load for the return trip, and must be sent back empty or poorly balanced; for the use of the vessel park the number of days are also important which the vessel is spending idle for shortage of cargo and for the time needed for the transference manipulations, subject to the degree and caliber of mechanisation. With a quick circulation of the barges, the time losses of tugboats while waiting for towage are also reduced. (The standard of utilisation of tugboats is around 4000 hours of run per year). To these conditions, the rapid through-passage in the locks also belongs which depends upon the technical construction of the locks and on the dexterity of those who attend the locks, and on the skill of the vessel's crew.

c) The ECONOMICAL ELEMENTS are the expenses for the purchase of the vessel, for its maintenance and repair, for the price of coal and for other propulsion fuel and grease, for the condition and the pay of the crew, and for administrative workers, for the concern's working costs and writing-offs (amortisations).

For amortisation, the life of steel barges is taken for 40 years, of cargo ships with self-propulsion for 25 years. The expenses on maintenance and repair of the ship park fluctuate between 3% and 6% of the purchase price, with a higher rate of payment for vessels equipped with engine.

E s t i m a t i o n o f s e l f - e x p e n s e s.- Further on, we cite an example of calculating the self-expenses according to TILLINGER, since accurate expense accounts are not publicized, and only by an example can we show the procedure of calculation.

Let us take a barge with a gross tonnage of 600 T, under the conditions of the year 1939. The daily working period lasts 16 hours, then with every run, also a return, we estimate 7 days' stalling for a barge, one day for the tugboat. The passing of the barge through the chamber of locks

* * * p.99) lasts a quarter of an hour, the hourly com-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

sumption of coal per ONE HP is 1 Kg. The wages of the crew of the tugboat are estimated with consideration of the fact that, during the three winter months, the stokers, deckmen, and the assistant machinist will be working on repairs in the dockyard, since for the crew of a barge all-year wages are calculated for the helmsman only, wages for 10 months for the sailors, and wages for nine months for the deckmen.

A tugboat of a 300 HP work performance will tow 3 barges each of a gross tonnage of 600 T. Downstream the gross tonnage is used at 90%, upstream at 25%. The tugboat then is towing downstream 3 x 0.9 x 600, i.e., 1620 T, and 558 T of tare, i.e., 8.7 T per One HP, and on the return it tows 3 x 0.25 x 600 T, i.e., 1008 T including tare that is then 4.0 T per ONE hp. To this corresponds a speed of run --after the tables indicating the speed in even water according to the use of the gross tonnage -- 6.6 Km/h at the downstream run, and 8.3 Km/h at the upstream run. Were we counting the influence of the stream, which has a speed of 3 Km/h, the accurate speed of run is 9.6 Km/h downstream, and 5.3 Km/h upstream.

A tugboat of a procurement price of 250 000 Cz.cr., has the following annual expenses:

maintenance, repairs, and the like 11% . . . . . 27 500 Cz.cr.
crew 16 800
TOTAL . . . . . 44 300 Cz.cr.,

divided by the number of days of the shipping season(225), it is a daily 197 Cz.cr. To this, the operation is calculated as

expenses on coal 0.3 T by 24 . . . . . 7.20
on grease, manoeuvres, and the like 20% 1.44
TOTAL per h 8.64,

with a working day taken for 16 hours, 16 x 8.64 makes 138. On a day of work then, it comes to 138 plus 197 = 335 Cz.cr. Daily the run covered downstreamwas 153 Km, upstream 85 Km. The expenses on tugboating downstream make 335 : 153 = 2.18, and upstream they make 335 : 85 = 3.95 Cz.cr. For ONE Km of tugboating, the expenses must be further divided by the time of standing, according to the formula

$$A = \frac{H \times d}{L} + K_d + K_p,$$

where A means the expenses per 1 Km of tugboating,
H ..... the daily steady expenses
d ..... the number of days of standing during one way then and return,
L ..... the length of the route,
K_d ..... expenses of tugboating at the downstream run,
K_p ..... expenses of tugboating at the upstream run.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The calculation for a cargo barge is made similarly:

	Purchase price	105 000 Cz.cr.
p, 100...)	maintenance, and others 9%	9 450 Cz.cr.
	crew	6 000
	TOTAL	15 450 : 225 = 69 Cz.cr.

The daily expenses of the barge at a downstream run per 1 Km are 69:153 = 0.45, and at an upstream run 69 : 85 = 0.81. To this, the daily expenses of the barge must be separately calculated for the time of standing which were 7 days on the way and back, and the average expenses per 1 Km must be calculated downstream and upstream. The estimation goes according to the formula:

$$K = \frac{1}{(\eta+\eta_1)360}\left(\frac{B.d}{L} + K_d + K_p\right) + \frac{3}{(\eta+\eta_1)3600}\left(\frac{B.d'}{L} + B_d + B_p\right).$$

where K is the average expense per 1 TKm,
η the use of gross tonnage downstream,
η_1 the use of gross tonnage upstream,
B daily constant expenses per barge,
B_d constant expenses per barge per 1 Km of downstream run,
B_p " " per barge per 1 Km of upstream run,
d'... the number of days of standing of the barge at each turn downstream and back.

If we substitute in this formula the absolute values, then we will get:

$$K = \frac{10}{L} + 0.30 + \frac{70}{L} + 0.18 = \frac{80}{L} + 0.48.$$

The transportational self-expenses of river navigation are, as at every type of transportation, unusually sensitive for the volume of transport. The inelastic factors of self-expenses, i.e., the writing-off and, to a considerable extent also the personal costs, weight much against the direct expenses which depend upon the volume of transportation (e.g., expenses on fuel a part of the personal expenses, and the like). The personal expenses are inelastic, since the cadre of highly qualified and exact workers must be preserved, even if there is no convenient placement for it on the working field. Under the assumption that the constant (steady) expenses, i.e., the expenses which do not depend upon the volume of transportation, form one half of the planned expenses only, a 10% growth in transportation is manifested in the sum total of the self-expenses an increase of 5% only, and the transportation self-expenses per unit of work will fall to 105/110 = 95.4%. Therefore, full employment of the vessels and their increasing utilisation, directly shown also in the growth of work productivity, is of great importance for navigation. The endeavour for what is the best use of the vessel includes an accurate disposition of the empty stowage place, full use of gross tonnage of the barges, speeding up the loading and unloading of the barges, speedy composition

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

and expediting of the towages, exploitation of the longest time of the day for runs, increasing the run's velocity, increasing the load of tugboats, lowering the number of crashes and other damages, shortening the time of repair, constant provision of supply of operational

* * *p.101) material, the purchase and the like during periods of loading or unloading of the barges, rapid execution of all administrative works connected with the crew of the vessels and its expenses, etc. By the example of the railroads, standardized technological operations should be also here carried out according to the experience of the best firms and the best workers. Out of the many objective influences which affect the use of vessels we must mention at least a) the smallest and the average shipping depth, b) the long shipping period, c) the speed of the river stream, d) the equipment and transfer capacity of the ports.

The Financial Plan

arranges the receipts of freightage, namely of the transportation of passengers and goods, of the secondary dues (including the rates on transfer) and, of the rest of the profit, and it is an image of the relationship of the concern to the State budget.

THE LEGAL ARRANGEMENTS OF INLAND NAVIGATION.

* *

Inland navigation, in respect to legal freigth charges, had been regulated in the Czech lands by Commercial Law Chapt.1/1863, and in Slovakia by the Law Chapt.XXXVIII/1875, as also by the terms of transportation of the shipping firms. We do not have special legal regulations for navigation, as is e.g., the Railroad Carriage Rule in railroad transportation. These regulations had been cancelled on Jan.1, 1951, according to Par.566 of the Civil Law Code of 25 Oct.1950, Chapt.141 Sb., namely including the law by Custom. It is replaced by regulations on the freight contract (Par.474 -484), occasionally on contract with a shipping agent(Par.462 - 473) of the New Civil Code. By a f r e i g h t c o n t r a c t the transporter obliges himself to the sender that, upon payment, he will transport the thing and will release it to the designated consignee. (The transportation of travellers them is only following the overall regulation of obligation for transportation). The b i l l o f l a d i n g is the written confirmation by which the sender confirms the order of transportation. The transporter has a right for making out the bill of lading. Of another nature is the loading list by which the transporter pledges himself that he will issue the merchandise to the one who submits the bill of lading and acknowledges on it the accept-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ance of the cargo. The loading list contains at least the marking of the merchandise according to its character, the amount and the signs, the name of the sender, the name and headquarters of transportet, the name of the person to whom or on whose order the merchandise has to be transported, the place of delivery, the place and the day of issue of the loading list, the regulation about freightage and the signature of the transporter(Par.477). Until the transporter had not given out the goods to the recipient, he is bound to follow the wishes for new disposition by the sender. However, if the loading list had been given out, such demand for disposition may be given by the owner of the loading list only(Par.478). Transportation must be carried out with exper attention, without unnecessary unloading, and, if a delivery time-limit had been agreed upon, then within that time-limit.

* * *p.102) For performing the transportation, the transporter may employ another carrier, unless this should be espressedly prohibited. The transporter is liable for the actions of all his employees and of other persons who take part in the execution of transportation(Par.479). The transporter is liable for damages which arise on the transported things, from the time of their acceptance for transportation till their delivery to the consignee, naturally if there had not been caused any damage by the sender, by the deficiency of the cargo or of its ~~XXX~~wrappings which the transporter could not have known, or by unavoidable accidents(Par.480). Upon loss, the transporter will recompensate the price of the article current at the place of dispatching at the time of the acceptance for transportation, and the freightage, customs duty, and other dues which had been already settled in connection with the transportation of the lost goods. Upon injuries(damages), he will recompensate for the depreciation(Par.481). For the determination of claims from the provided cargo contract, the transporter has a mortgage right on the transported things, as long as he can dispose with them(so far as they are in his safekeeping or in the safekeeping of anyone who has it in his possession in the transporter's name)(or as long as he has the security papers which authorise him so that he may dispose with the forwarded things; Par.470 to 482). A mortgage right of the transporter later arising has priority over the right originating earlier. The mortgage rights of the transporters have priority over the mortgage rights of the shipping agents(Par.483).

For carrying out the transportation, beside the compensation of the necessary and service charges, the transporter has a right to the contracted tariffal ~~XXX~~ or corresponding payment(Par.468). With risk of destruction or depreciation of the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

transported things,if there is no time to ask the sender for provision or if the sender defers such provision, the transporter may give the things for sale at a public auction.Claims against the transporters for loss,damage,or delayed delivery expire in one year,namely from the day when delivery was due or when the transported things were to be delivered(Par.473,484).

These regulations are valid for the whole transportation of goods,and are given in an outline only. The special circumstances,under which transportation is performed on inland waters,require more detailed arrangements of many questions unanswered by the law.These arrangements include the transportation terms of the shipping concerns, similarly as in railroad transportation tariffs. To these terms the sender will consent by filling out and signing the loading list.

The terms of transportation on the Odera and the Elba, for evolutional reasons and for wisdom, are arranged by the German law on inland navigation, on the Duna the railroad transportation rule has rather influenced it.

The elaboration of new legal rules,or at least of new transportational terms is an unusually urgent and difficult task,because,to a certain extent,one has to look out for the international character of navigation which,with out foreign navigation, goes through a territory where for the Odera the Polish Law is valid, for the Elba the German Democratic Republic's law and the law of Occupied Germany, and for the Duna the laws of Germany, Austria, Magyarország, Jugoslavia, Bulgaria,and the Soviet.

The terms of transportation of the shipping concerns have solved the problem of unification originally by a suitable method. Whenever they are today in conflict with the current law or with the necessaities of planned economy,

* * *p.103) the terms of transportation are mutually solved by smoothing out the differences.

The terms are valid for all transportation, even if the shipping firm will provide foreign vessels,e.g.,by hiring,to do the transportation.

After the loading of goods,the service place of the shipping concern is signing the original and the necessary copies of the loading list. The original of the loading list goes to the sender. One copy has the function of a bill of lading, it is namely the confirmation of the order of transportation, it accompanies the cargo,and, upon finishing the transportation, the freightage and the rest of charges and fees are directly estimated as a rule upon this copy. For the signature of the loading list the commander of the ship(captain,helmsman) is authorized by special authorization one

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ly,which is given only then when the vessel is loaded at a place too remote from the service place, then whenever it is impossible to wait for the transportation of the necessary papers.The original of the loading list has to be signed by the shipping firm,its copy by the sender. Frequently however,both documents are signed by both parties,since through the expressed order of the Civil Law, not every loading list is considered a valuable paper,but only the one made out "on order" of the sender or of the recipient, transferable--in the same way as a bill of exchange ---by endorsement. Such a loading list is distinctly labeled in the Elba navigation by blue stripes, printed on both sides of the issued form. Forms of the loading list are sold by the shipping firms,and filled out by the sender. In the Elba navigation,the originals of the loading lists are printed on yellow paper, the copies on blue paper. In the loading list,beside the entries prescribed by the law, these data are also quoted:- marking of vessel, the remark whether balance of payment is due on the goods and at what amount, the remark about payment of freightage in advance, with the insurance of the goods a note of the insured value and the title of the insurance company,and a record of the enclosed documents for customs and for statistical transactions of the cargo. Similar records on the forwarded goods may be entered on the loading list, e.g.,the weighing list, the collected charges,and the like. If these lists have to be binding for the shipping firm,they must be signed by the sender and the service place of the shipping concern. Other supplementary or different agreements are valid only if they are entered on the loading list.If such agreement is not entered on the loading list, at least a reference must be made to it in the list.

For cargo on order, the address for reporting the arrival of the cargo at the place of destination must be also entered on the loading list if the person upon whose order the loading list had been drawn does not have his residence at the place of destination. To this address the shipping concern has to send communication who is the owner of the loading list made out "on order". The sender is liable to the ship - ping firm for damages caused by inaccurate or incomplete documents required for customs or for other official discussion of the cargo,especially also he is liable for the delay if this comes to the vessel for such a reason.

The terms of transportation distinguish whole-ship cargo and piecemeal cargo. Should the barge be designated for the transport of whole-ship cargo, the sender has the right to determine the place at which the goods will be loaded. Should he do not so, or should the place be unsuitable on account of incapacity(depth of water

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

unsafe ice, equipment, occasionally prohibitions), the firm puts up the barge at a * * *p.104) locally usual area. The sender does not have a claim on payment of higher expenditures originating thereby, not even on extension of the time-limit for load - ing. The sender may enter into agreement with the shipping concern that, under the indemnity of the expenditures arising thereby, the barge is loaded at different places. The loading time-limit is however not prolonged thereby. In contrast, at the intermediate stations, the shipping concern may take into the barges loads for different places of destination.

If the barge is ready for loading, the transporter has to notify the sender about it. Notification is not needed if the service place of the firm had accepted the sender's order for loading (i.e., "handing over" in the Czech ports). The sender must take note of such announcement till the end of the usual official hours only. Were the notification written later, or on a they of working-rest, it is valid at the beginning of the next working day.

A further day after this notification the loading time-limit starts to be in force; if however loading was started earlier, the limit counts from the first day of loading. The loading time-limit is determined by the number of days according to the total weight of the cargo, namely, with a cargo weight up to 400 T, one has to load 100 200/T each day; with a weight up to 600 T, it is established at 5 days. Should the weight of the cargo be higher, then a daily 200 tons must be loaded. In the time-limit for loading, the Sundays and the days of rest do not count; however, the days on which the sender was to be blamed that there was no loading are counted in the time-limit. In contrast, whenever loading circumstances would be hindered by what would hinder the loaders generally, e.g., high water or unsafe ice, the length of the loading time-limit is raised.

Should the sender overstep the loading time-limit, he has to pay to the shipping firms delay dues for every day by which the loading period had been exceeded. The firm may also vindicate claims for compensation for larger damages. For the day whenever navigation stops and a ship could not make any profit by run or even by dumping the delays dues may not be paid (this regulation is not valid, however, for maritime ports).

The sender may settle with the shipping firm that, even at the overstepping of the loading time-limit, the barge keeps on waiting for the goods, not longer however than a week's period. However, delay dues are also charged even for this period of time.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The delay due is differentiated by the gross tonnage of the ship and by its kind, for example, with the Czechoslovakian CSPLO, for cargo barges with gross tonnages from 450 to 500 T the delay dues make 1170 Cz.cr. every day; for barges from 700 to 750 T, 1620 Cz.cr., for barges from 1000 to 1050 T, 2160 Cz.crowns daily. With motor barges of a gross tonnage from 450 to 500 T, the delay dues are 3000 Czech crowns daily. Sometimes, the delay due is graduated so that for the first day less is paid, later more. The fractions of a day count for whole days. The gross tonnage of a vessel is established by the list of the gauging office.

Should the shipping firm keep on waiting for the goods after the end of the loading time-limit, or after the further agreed-upon prolongation of the waiting period, he must notify the sender, namely, with cargoes above 50 T at least 3 days in advance. If the sender would not deliver any goods, in addition to the eventual delay due, the firm may require payment for half of the agreed freightage. Had loading already * * *p.105) started, at the end of the waiting period the shipping firm may depart with partial loading. Beside the delay dues, the shipping firm has a claim upon the full freightage and, would the value of the loaded goods not cover it, he may require additional security. The sender may demand any time that the ship should sail off with partial load, should he of course fulfil the mentioned obligation, then even before the expiration of the waiting period. However, the sender may also withdraw from the agreement; he may unload the loaded goods at his expense and he may compensate the firm by paying half of the freightage, occasionally also the arising delay dues. The firm may ---should the sender be with the unloading of the goods in delay --- at the expiration of the waiting period, unload the goods himself, and charge for it.

After departure, the sender may (occasionally the owner of the loading list) require a premature unloading, if he would pay the full freightage and the additional charges, the expenses and dues stuck on the goods, e.g., the dues at a great crash(average), and the increased expenses, in case of damages, which arise for the firm thereby.

Should there be for a certain part of the vessel a cargo other than whole-ship, or from 10 T higher, the loading time-limit is established longer, namely, up to 50 T one day, up to 100 T two days, and for every further 100 tons another day. If there would be several senders, the firm must not demand delay dues for this day from the several senders at full height. The sender does not have a right to demand the unloading of the cargo instead of a departure whenever this would mean a delay in the

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

journey, or rebalancing or newly transferring the goods, unless all senders(the own - ers of the loading lists) would agree to this, and the vessel would not be menaced by the repeated unloading. The vessel may be loaded for different places of destination, and may be also loaded for places which are not situated along the direct route.

At the loading of cargoes under 10 T of total weight, the sender is obliged to deliver the goods to the loading place without delay upon notification by the firm. Should he not do so, the firm may send off the barge without this cargo, and may demand half of the specified freightage from the sender, if before starting the journey the firm had notified the sender about such an intention.

With the loading of parts and piece-meal cargo, the shipping firm selects the loading place; this must be however a loading place at a common place. The sender may come to an agreement with the shipping concern otherwise; in this case the regulation about selection of place for whole-ship cargoes is valid.

The sender loads the goods into the vessel. The manipulation within the vessel(equalizing, transplacement, etc.) is the business of the shipping firm, unless there has been something else agreed upon differently. The sender is obliged to load the particularly long, heavy or bulky objects into the ship at a place which the commander of the ship marks out for it. The firm is entitled to accept goods, according to the circumstances, also into the relief barges. It is obligatory to finish all works speedily, in case of need even outside the usual working period. In this instance, the firm has the claim upon compensation for overtime hours and an extra charge. The sender may stipulate that the cargo will be transported by a specified vessel. Should the firm not transport the cargo in this vessel, he is liavle for the arising damage, unless it was proved that this damage was caused and produced by the sender, even if the goods were not

* * *p.106) loaded or transferred into any other vessel than the one designated. Should there be no such agreement, the firm may transfer the cargo, in part or entirely, without the consent of the sender into another vessel of equal class, and do so at any time and anywhere so long as the period of transportation is thereby not substantially prolonged.

Even when transportation by a definite vessel is agreed upon, the firm may transfer the cargo to another vessel if this be necessary in case of emergency, for reasons of small water, at customs clearance, etc. However, the prohibition of the use of another ship is never related to (means) the usual transfer into relief barges, rafts, or lifting vessels.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Of the transfer of goods into another vessel, the firm has to notify the sender so long as this is possible. This regulation is not valid however for the example mentioned in the previous paragraph, and for the transfer of merchandise which is made when the goods are further transferred at adjacent waterways.

The firm also has a claim for settlement of the delay dues and of the charges arising so that the order for loading was inaccurately given, or it was impractical to load the goods, either in part or as a whole, on the barge and therefore the barge had to ~~ze~~ abandon~~ø~~ (leave) the announced loading place, and so on. On the day and hour of finishing the loading, a person is charged with receiving the goods (as a rule the helmsman of the barge) bound to acknow~~ø~~ledge the receipt upon request.

The goods are given over by the number of pieces (e.g., bags), by the weight (e.g., grain) or by measure. Should it not be so, the firm must note that at the loading place ("number, measure, weight unknown"n or "accepted without weighing", and the like). The weight ascertained by taring of waggons is not obligatory for the firm.

In his presentation -- i.e., in the order for the loading of goods, in the bill of delivery and the like whi he gives to the firm before the delivery of the goods --- the sender must also indicate, beside the data on the character of the goods all the appendix and notes which have to be written into the loading list, or are necessary for dealing with the goods, for their storage (Beware of heat!) and for the receipt or delivery of the commodities.

The concern may refuse pieces which are not carefully marked with marks or numbers, or if their looks or their cover gives evidence of defect (welling-up of barrels, broker-through cases, half-filled bags, and the like). The firm is not obliged to verify the contents of covered commodities; he may however reexamine, in the presence of authorized persons or two uninterested witnesses, whether the data on the loading list are in agreement with the contents of the cargo.

With cargoes of freely loaded grain, oily seeds and the like, the sender has to deliver bagged specimens, weighing 50 Kg, which are loaded with the transported goods and give testimony about its quality. Should the sender refuse this, the firm may then charge the sender with the expense of a sworn-in weigher. This sample is important at routes lasting for longer periods when, by loss of its natural moisture, the grain may lose on weight so much that it is getting short upon discharge of the goods by weggon distributions. About the transportation of merchandise which is, by its nature, unsafe for the vessel or to other goods, and also if a special equipment would

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

be required

* * *p.109) for the loading or/or unloading of the out-of-proportion long or heavy pieces,a particular understanding must be made. For the damage caused by such goods, the sender and the recipient are jointly liable to the owners of the rest of the goods to the ship and to the persons who suffered damages in health or to life, unless the damage had been caused by a profound carelessness or by malicious intent of the employees of the firm. The sender is therefore obliged to carefully indicate the nature of the goods at the presentation, in the loading list, and on the individual pieces. For pieces weighing over 500 Kg individually, their weight must be indicated directly on the cargo, and also at the presentation and on the loading list. The cover of the unsafe commodities must correspond at least to the safety prescriptions, entered in the SUPPLEMENT of the First International Convention on Transportation of Goods by Railroad.

Should the sender knowingly declare inaccurate amounts or types of goods, he is obliged to pay the firm double rate of freightage.

Should the goods threaten the rest of the cargo,the ship or the life and health of the assembled persons(crew),the commander of the vessel may unload such merchandise on the banks, or in case of emergency,he may thro it overboard,without thereby by having caused the sender to raise a claim for compensation of damages against the firm, or without raising a claim for compensation of the full freightage and of other expenditures for the firm.

At
XXXXX/the period of navigation, the shipping firm is obliged to care for the loaded goods. The firm is not bound,however, to run over the grain, or to repair the wrappings and to control the status of goods. If special provisions are necessary for the prevention of damages or for the lessening of damages, the firm has to provided with a hint by the sender(the receiver), he may however do the necessary thing himself and notify the interested person about it.

Of the arrival of the vessel at the place of destination,the service place of the firm will notify the recipient,in case of loading lists on order at the mailing address. By the payment of the freightage, of cash on delivery(balance due), secondary dues and other expenses attached to the cargo, the copy of the loading list is delivered to the recipient. Notification of arrival of goods(Aviso) suffices for taking charge of the copy of the loading list or of the delivery list. However, as a rule,nowadays the arrival of goods is announced by telephone. By redeeming the copy

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

of the loading list, the receiver does not lose his right to raise claim against the firm. With the acceptance of goods or after its acceptance, the receiver may claim compensation for damage, mistake (exchange) or shrinkage of goods, but it is necessary that the nearest service place of the firm be immediately notified in writing. Visibly considerable damages or inaccuracies must be ascertained before taking away the goods from the place of unloading; visibly not significant damages then immediately after being discovered, not later however than a week after the receipt of the goods. Should the compensation be vindicated late after the receipt of goods, on the bill of the receiver the status of the goods must be ascertained in each case by official experts. If the defect arose between the acceptance of the goods for transportation and their delivery, the fees of the expert appraiser are paid by the shipping firm.

If the question is about a whole-ship cargo, the firm has to land the ship at an unloading place designated by the recipient. With this, equal stipulations are valid as with loading.

The readiness for unloading must be announced to the receiver. With piecemeal

*** p.108) and partial cargo, this readiness can be announced to all receivers equally. If the receiver is not known, the readiness for unloading is announced by public proclamation, by a customary way at the place.

For the unloading, a time-limit is similarly determined as in the regulations for loading. The customs clearance goes to the debit of the loading time-limit, so long as it is not the ordinary customs clearance of the entire vessel at the State boundary lines.

Upon trespassing the time-limit, a delay due must be paid. The shipping firm may compromise that on the unloading of a barge he will wait a maximum of one week, even after the completion of the time-limit for unloading. Should the firm keep on waiting, he must notify the recipient, similarly as at the loading. The further procedure (unloading and storage of goods) is also similar to the procedure at loading. If the barge would be retarded and its load is designated to several recipients, the firm may demand delay dues from anyone of the receivers. The receiver may not prove that he was not to blame for the delay of the barge.

If the receiver is unable to ascertain the goods, or if he refuses to accept the goods, the shipping firm announces this to the sender and demands his order. If the sender does not make an order in good time, or if the order is unperformable, or

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

it is impossible to wait under the given circumstances, the shipping firm may unload the goods and store them, occasionally, if its is unsafe that the goods become spoiled by the delaying or that their value would decrease considerably, he may also sell it. The shipping firm must inform the sender about this without delay, as well as the recipient(if he is known). If the recipient could not be ascertained, the storage of the goods must be announced by public proclamation.

If more cargo must be unloaded for more recipients from the weight of the ship at one place,and the ship cannot unload because the port is overcrowded or its equipment is unsatisfactory, All receivers are charged with an average rate of delay dues,according to the weight of the cargo. However, if the delay is caused by the recipient from delayed or inaccurate dispositions, the delay dues are charged at full rate to this receiver only for the days while the unloading was delayed. The recipient takes over the cargo in the ship, and procures for its unloading with the participation of the vessel's crew.

Special cases of counting the time-limit for unloading and the delay dues occur at the relief of the vessel and at the total time-limit of unloading.

At the relief of the vessel, e.g., due to a sinking water level, a part of the goods remains in the original vessel, and a part,sufficient to lower the draught of the first vessel to the required measure, is being transferred to another,the relief vessel. Both portions of the cargo are considered as a single cargo,and they have an time-limit for unloading determined according to the original whole loaded amount. This time-limit for unloading is divided in the ratio in which the weights of both portions of the cargo are. Should the time-limit for unloading exceeded for one vessel, a claim for payment of delay dues still does not arise. Delay due is paid only then if the entire originally stated time-limit of unloading is trespassed.(It is possible by speedy unloading of the second barge to compensated for the delay in unloading of the first barge).

The total time-limit of unloading is established for a cargo which is delivered in parts

* * *p.109 p.) to different recipients at one or at different places. It is,for instance with cargoes of grain or other bulk goods. The individual recipient has a claim on such portion of the time-limit of unloading as corresponds ti the total weight of the cargo he had purchased, resp. he must take away in relation to the total weight of the load. The time-limit of unloading, occasionally also the payable delay dues, is

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

counted by half-days according to the locally usual working hours. Only the first recipient has a free day for announcement; for the rest, the time-limit of unloading is the day when the readiness for unloading was announced to the receiver, namely the hour closets to the full hour after the announcement. The receiver who exceeds the time-limit of unloading allotted to him, is obliged to pay delay dues in the meantime. If the entire time-limit of unloading is not trespassed by all the receivers, or at least not by many, the overpaid delay dues are returned after performing a calculation.

With the release of the goods, the firm proceeds in the order in which the demands for the delivery of goods(transfer workers, unloaders) arrived unless a consideration should be permitted for the safety of the barge and of the goods. The receiver of goods who, according to local practice or according to the agreement, does not issue a demand, must accept the cargo at the customary or at the officially determined place, otherwise the firm will store it with similar effect as if the receiver would have received it.

The recipient is obliged to acknowledge the receipt of the merchandise. The cargo may be received by the receiver only entered in the loading list, or, if the loading list is made out "on order", by the person on whom the loading liast(bill of lading) was endorsed by transfer. The shipping firm has not to scrutinize the legality of endorsement. The goods are given out only if the receiver returns in advance the bill of lading "on order" to the firm. After the unloading of the goods, the receipt of goods is acknowledged on it as a supplement. If however the bill of lading is not made out "on order", the shipping firm has not to require the returning of the original of the loading list. Should the bill of lading "on order" be lost, the firm will deliver the goods upon sufficient guarantee only, and after the inauguration of amortization proceedings.

Should an excess(surplus) be found at the delivery of the cargo, the surplus has to be handed over to the receiver. If however more barges had been unloaded at this place with goods of similar kind, and if a surplus is shown for one barge, and shortage is found in the other, then the surplus is first used for the satisfying of those receivers whose cargoes showed shortage. For unwrapped goods which were loaded piecemeal, however, and according to the bill of lading designated to different receivers, each of the receivers has claim upon an average ratio of the surplus according to the division of the total amount of cargo. If the receivers are living at

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the same place, the surplus may be divided in goods, otherwise it is give out to the later receivers so that,with the preceding ones,the accounts are financially settled. If he refuses to receive the excess, the shipping firm will render an account of the sale of the surplus and by discount of the expenditures.

Should there be a shortage for such a cargo of bulk goods which was loaded by one sender only, but,according to the loading list,has to be distributed among several different receivers, these recipients to whom the full weight had been given out have to indemnify the later recipients in proportion

(* * *p.110)

of the shortage to the antire weight of the cargo.Claims against the shipping firm are not lost thereby.

With loading of some cargoes,several places of destination are given,and only at the arrival is it decided whether the goods are unloaded,or they keep on floating further. Such cargoes are called conditional, and the ports of destination are called optional because in them the authorized receivers make up their minds(decide) for a place of destination. For every port an address for reporting must be given. If no requested disposition is at the address, or if the addressee has no power to legitimize a duly for him endorsed bill of lading, the barge may continue on its was to the next optional port. Should there be no decided disposition even at the subsequent port the firm will tell this to the sender,and will notify the readiness for unloading by the locally usual method.

Conditional cargoes have to be not less than 50 T for each bill of lading and for each unloading place.

The rates of freightage are established for 100 Kg. Should there be different rates for different amounts agreed upon,or established, the rate for larger amount is used than what was there loaded if the total freightage calculated for larger amounts is cheaper.

In the freightage, different shipping charges are included, e.g., the extra fees for the passage through the locks, for the navigation of canals, bridge fees, ship pilot and normal towage charges, and dues for relievinf the barges, of course if these expenses had not been caused by the sender or other authorized person. The rest of the expenses goes for the weight of the goods, which also pays for the increase of channel dues in the time between the conclusion of cargo agreements and the delivery of goods at the place of destination. These are the portal and quay dues, the dues for the use of cranes,balances,special outlays at the acceptance and delivery of goods

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

under unfavorable conditions(ice,storm,high water), for work outside the locally usual or by the tariff established working period,and the like.

Should the freight charges be established according to amount, weight or measure, for its calculation the sender's data in the bill of lading are direction giving. Af at the delivery of goods an excess is found which did not arise from external influences the firm has a right on freightage and secondary dues even for this excess. Ig it comes to controversy about the weight of the goods received without weighing, the firm may allow the cargo to be weighed again at the place of destination and, if the weight were given less in the bill of lading, the firm calculates the expenditures connected with this weighing. For a cargo for which this datum is with the note that the amount had not been verified, for the calculation of its freightage the weight of the delivered cargo is taknn.

Beside the freightage charge and the draught surtaxes, the following supplementary dues are estimated:- for loading and unloading, for transportation by ferries, for transfer,with the manipulations through storage(acceptance, storage, 3 days free, and transfer), commission from the balances-due, from the moneys advanced, and from the cash in hand(as money in advance may be entered the customs duty, the railroad transportation fees, and the like), statistical fees, and fees for the customs clearance, for revision and classification of the goods, the fee for calculation, the compensation for

* * *llip.) the sailing of the workers, for the assistance of the ship's crew, for works overtime and at night, for assistance of extras, for the control at weighing, the weight fees, for taking samples, for the notification of arrival of goods, local towing charges, dues for the delivery and purchase of the goods to the ferries, delay fees for the ferry, surtaxes for heavy pieces, of course as far as these are taken actually into consideration. With cargoes expedited as paid in advance(franko),the recipient pays the expenses arising after the beginning of the route and at the place of destination, unless in the bill of lading it would have been expressedly entered "franko ship", "franko unloading place", or "TCB maritime ship".

The shipping firm guarantees against the damage arising by loss, shrinkage and defect of goods so far as shows that with due care of the transporter the damage could not be averted. Frequently,however, the guarantee by the transportation firms is eliminated. The firm does not guarantee, especially against a damage arising by defect of other goods, for damaged status of the ship and of the transfer equipments if

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the defect could not have been found with due care, for damage originating so that the merchandise was transported in open barge, or on the deck (by agreement with the sender, or according to practice), for goods badly wrapped or not wrapped with consideration of damages originating in goods due to deficiency of cover, for damages at transfer if the sender or recipient had transfered it, for damage originating from the particular character of goods (fracture, rust, self-combustion, internal corruption, springing, drying up, insects, rodents), at which the supposal is valid that the damage originated from causes introduced, if then it could be so caused. The firm does not guarantee against damage originating from shipping accidents (crash, run-into, penetration of water, surf) or by fire, explosion, burglary, larceny, and the higher powers. This unsafety is covered by transportation insurance which may be closed at the insurance company or at the shipping firm. The transportation terms finally delimit the guaranteeing by the firm to a highest rate per unit of weight (e.g., 600 Czech crowns for 100 Kg) or per ship-load (100 000 Czech crowns).

With respect to the special nature of river navigation, related to maritime navigation, the transportation firms have still several further regulations:- if the cargo agreement would be closed about goods which arrive in the harbor by a certain maritime ship only (e.g., 600 T of apatite from the Steamer "Perseus"), the shipping firm is bound by the agreement only then IF the goods are submitted for loading during the next eight days, unless a later datum had been expressedly agreed upon. If the datum given is approximate (around March 15, or June 30), the firm is obliged to wait for the goods five days after thid date only. Goods which have to be delivered to the port by railroad, must be submitted for transportation at the forwarding railroad station, not longer than five days after the closure of the cargo agreement.

Should the agreed-upon date be later, then the firm must have at least 6 days before the announced day when the goods will be transported to the forwarding port for loading.

For the date of the beginning of navigation and of the end of navigation the day is valid when the start and end of the navigation was publicly announced by the shipping firm.

* * *p.122) "Open navigation" is the period in which the shipping firm maintains regular shipping operations; "stopped navigation" is the rest of the time.

If in the cargo agreement the amount of goods is approximately fixed, the sender may hand over about 5% more or less. At the calculation of different rates for

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

different days, the decided amount of goods is loaded on the barge at a certain day. This is valid for draught's surtaxes, unless the draught would sink so that the firm would be obliged to step back from the contract; if the firm loads the goods inspite of this, he is obliged to count, for the entire amount of goods loaded on the vessel, at the highest surtax.

If accident makes the departure permanently impossible, the cargo con - tract loses its validity, without claim of any side for compensation. Such an accident is the loss or heavy defect of the vessel, as also the loss of goods so far as it was definitely caused on the vessel. However, for the effort already exerted, the firm has to be paid at least one fourth of the freightage for the amount of goods which at the dissolution of the contracts had been already loaded.

If an accident would make it impossible to fulfill the contract after departue, permanently or for a considerably long period(deficiency of vessel, loss of goods), the firm has a claim for freightage corresponding to the covered distance(distantial freightage). This freightage makes at least a third of the full agreed freightage and for its determination not the kilometric distance is decisive only, but also the ratio of exerted expenses and consumed time, which falls upon the travelled tract, to the expense on the entire line. The firm is obliged to care for the goods , even at loss or defect of the vessel which had caused the dissolution of the contract, so that either he gives the goods for account to the participants to transport at the place of destination, or he puts it to storage, of which he immediately sends word to the participating parties.

If the departure or the continuation on route is temporarily made impossible without a fault of the sender, the sender may --should he not keep on waiting for the removal of the obstacles -- step back from the contract. The firm has the right, however, for half of the freightage, and if the ship had already covered more than half of the way, for the entire freightage, beside the expenses for unloading the goods. Should however the sender step back from the contract 14 days after the arising of the obstacle only, if the journey had already been started, or after 30 days if the journey still was not started, the entire freightage falls to the shipping firm. However, the transwintering of the vessel does not count for such an obstacle(in this case the firm has a claim for the full freightage), with piece cargoe the firm does not have to be satisfied, the sender must refund the arising higher expenditure, etc.)

The claims against the firm expire after six months, and must be vindic-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ated by the Court within this time limit.

The firm is obliged to insure the goods at a special order only which must be indicated in the bill of lading. The insurance against fire by the period while the goods are stored in the storehouse, on the dumping places, on the relief and lift vessels, must be expressedly required, however. The premium is paid by the orderer; if the premium is not paid, the insurance is not considered for established.

TARIFFS IN INLAND NAVIGATION

* * * * * * * * * * * * * * * * * * * *

The rates for the transportation of goods and travellers are fixed by the tariff. The tariff for the transportation of travellers is as a rule simple, it has the form of a stational tariff, and its advantage is a definite discount at the ŽŽ return travel.

The tariff for the transportation of goods is more complicated. This tariff, to a certain extent, determines the earnings of the firm; it must then be carefully proportioned, always with regard to the railroad cargo tariff. This adjustment is proper since the preceding and the subsequent transportation of the majority of load in inland navigation occurs by railroad.

In the tariff, in principle, one distinguishes the common way of transportation in barge towed by a tugboat, occasionally downstream in a barge floating by its own weight, and the transport by express transportation, i.e., by cargo steamers and cargo motor barges which float alone or with one or two light-weught barges in towage only. The rates are differentiated according to the value system. According to the railroad classification, goods are classified in 9 groups(piecemeal goods and Classes II to IX) with which are in correspondance either similar classes of the river tariff or the river tariff amalgamates two neighboring and related classes of the railroad classification into one class. Piecemeal goods in the sense of tariff are cargo weighing less than 5 tons. Often we understand under the term of piecemeal goods the con - trast of bulk goods which are grain, cement, sugar, boards, or other kinds of goods suitable for whole-ship load. As piecemeal goods may be therefore considered also the cargo of several waggons of furniture, motor cycle, and the like. For whole-ship load the published tariff is indeed valid; if we deal however with extraordinary transportation of considerable volume and if for a determination of exceptionally reduced rates there are particularly heavy reasons present, a contract of such rate is not impossible.

At the creation of tariff, a consideration of distance steps to the back-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

ground and it is stated only with very profound differentiation.

The navigation puts stress however more than the railroad upon the importance of stowage utilization of the transportation device. This is achieved partly so that the tariff has established fees on light(not/~~dumpy~~ bulky) goods ,i.e.,such whose m^3 weighs less than 500 Kg (these fees are differentiated and reach up to 400%), partly so that it takes into consideration the technical possibility of using the barge according to the shipping depth. The tariff establishes the so-called d r a u g h t f e e, which is being charged if the draught is the highest admissible, and then also the use of the barge is limited by shipping depths. A fluctuation of the shipping depth up to a draught of 150 cm, which corresponds to about 2/3 of the use of the barge, is not looked for,however. The estimation of the draught fees brings in, of course, an element of uncertainty into the calculation since the water level may sink still earlier than the concluded commercial transaction is carried out. Therefore, EITHER the contracts become reserved about the fact that a risk of low water is covered by the shipping concern with increased rates, i.e., draught fees, OR the boundary STAT line is shifting

* * * p.114) ,from whose level of water reading the draught fee begins to be calculated,in a downward direction.

For the determination of higher draught fees,the day is decided as a rule when the loading of the barge was finished.

The tariff also establishes many secondary fees from which the most important is the delay fee. For the loading and unloading of goods, the transporter has a fixed exact period, distinguished according to the loaded amount and sometimes even according to the nature of the goods or the kind of transfer. At trespassing this time-limit,a delay fee is counted which is for the first day or days usually lower,and is gradually growing so that the delay fee would be truly an effective stimulus for speeding up the loading and/or unloading.

Parts of the tariff of the secondary fees are also the rates for transfer carried out by the shipping firm. For the determination of transfer rates, the goods are classified into three groups,according to the care which they need at the transfer.

It is impossible to say that the tariff politics of the Elba navigation had supported the Central Czech transfer places and ports. The fees for basic rate for the Hamburg-Laube line, 618 Km in length, for the further navigation to Holeschowitz they reach up to 50 or more percent, though the distance 149 Km is not even a full

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

fourth of the basic distance.The fee corrseponds approximately to the special expenses of navigation on canalized lines, made more expensive by the slow and manyfold sailing through the locks, and by the compulsory towage downstream and upstream.Occasionally, also a directional imbalance of Holeschowitz and Melnik may manifest itself where, according to the Navigation Yearbook for 1948,in import 145 000 T and 51 000 T were transfered, and in export only 15 000 and 7 000 T, so that unloaded barges for which there was no sufficient load had to float back empty.

The rate of the freightage for inland navigation is approved by the Ministry of Transportation. Because the question is about the price of a branch of an important economical field, the creation of tariffs in basic matters will be under the direct influence of the State Planning Bureau.

For the economical information of the public,the shipping firms publish scales of rates.With reservation of foreign commerce to privileged companies, and the foreign,especially so the overseas transportation to the Stock Company for International Transport Agency METRANS, the circle of the interested parties is relatively limited. The change of rates is published in the Tariff Bulletin.

The scale of rates of the Czechoslovakian Elba Shipping Joint Stock Company(according to the publication of 1 January 1948) contains an enumeration of the service places and their districts:- Holeschowitz(Praha-Mířejovice); Melnik(Mířejovice unloading - Litomeritz unloading- Little Elba); Aussig (Litomeritz - Nestěmice); Tetschen(Nestěmice unloading - State Border); Dresden(State border - Kl.Wittenberg); Magdeburg (Kl.Wittenberg -unload - Wittenberg); Hamburg (Wittenberg unloading-Lübeck).

The rates are arranged in tables and are valid for pure freightage franko the departure of the barges, at the usual starting point at the place of dispatching, to franko the arrival

* * *p.115) of the barges, the usual landing place at the place of destination. It is valid for the normal heavy goods to 7 m in length,and up to a weight of 1000 Kg for individual pieces.

For caustic,corrosive,smelling,explosive,or easily inflammable goods it is necessary to have a particular agreement with the firm for special transportation.

The freely loaded(poured) goods are taken for transportation in cargoes weighing at least 50 000 Kg.

For objects 7 to 10 m in length, a 10% surtax is charged, for objects longer than 10 m, the surtax is = 20%. For objects with indivdual weights of from 1 to 3

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

tons, the charged surtax is 10%, from 3 to 5 tons it is 20%. An object weighing over 5 tons is taken for transportationby special agreement only. For an object longer than 7 m and heavier than 1000 Kg, surtax is paid for one quality only, namely the higher one.

The rate is still valid at express transport for downstream transporta - tion at a smallest empty draught 140 cm, 150 cm at transportation by towed barge, and 120 cm at local express transport. Upstream the limit is 130 cm for towed barge, the rest are the same.

Would it be impossible to use the vessel at this draught on account of the shipping conditions(water level),a draught fee is being paid, namely,according to the draught empty on the day of finishing the loading.Would it be impossible to load the towed barge at least to 100 cm,and the express barge to 120 cm,the receiv- ing obligation of the firm ends.

The surtaxes at the downstream transportation are, for towed barge, gra- ded by 1 Czech crown for each 10 cm of draught:- from 149 to 140 cm...100 hellers; from 130 to 130 cm...200 hellers; from 119 to 100 cm...400 hellers. The scale in both cases ends at 79 cm and 800 hellers.

At the upstream transportation, this is counted:- for express ships with draughts from 139 to 120 cm...240 hellers for 100 Kg; under 119 cm...480 hellers for 100 Kg; for towed barges from 129 to 120 cm draught///...270 hellers; from 119 to 110 cm...430 hellers; from 109 to 100 cm...590 hellers; form 99(99) to 90 cm...800 hellers for each 100 Kg. Specially reduced fees are counted at transportation of iron ores, pyrite, and phosphate, namely in even grades 210 --- 600 hellers. For devisa reasons, the cargo to Germany is served postpaid, the cargo from Germany to the Czechoslovakian Republic is not postpaid.

The scale of rates has two indices for bulky goods. One for downstream transportation, the other for upstream transportation. In the lists the fee for freigh- tage is entered. The fees are entered in percentages for the downstream transportation --e.g., a round rum...freightage is charged under the rate of Class II and increased by 50%; wooden furniture,not loose...II plus 100%. In addition to this, by the example of maritime navigation, the rate for ordered goods is determined according to bulk, e. g., power motor cars tariff according to Class IV, and 1 m^3 of the occupied vessel space is estimated as a 500 Kg weight(in maritime transportation it is 1000 Kg).In upstream transportation the fees are for 100 Kg,entered in hellers. Because at small water as a rule the barge has sufficient loading space, the calculation of the fees

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

* * *p.116) by bulkiness were not logical, since the merchandise has been already also charged with draught fees. Therefore, the fees for bulkiness, up to 4 Czech crowns for 100 Kg, at a draught lower than 90 cm are not generally charged; at draughts from 100 to 90 cm, 50% is charged only. Thus, e.g., the fee of freightages for cellulose is 200 heller per 100 Kg; for animal hair in unpressed bales 100 hellers; for oats 40 hellers; for millet in ears 2000 hellers; and so on. But if the so-called daily rate would be offered, these fees are also counted to it and set the total freightage.

Classification of Goods.

For the classification of goods, the cargo tariff of the Cz.S.R. is valid, but, in place of the 9 classes, navigation has 5 only, namely, classes II & III, IV&V, VIII & IX were amalgamated into one class. Rates on the downstream express goods are established, similarly as in the railroad tariff, per weight grades at 5 tons (piecemeal goods), from 5, 10, and 15 T. In place of kilometric distances, however, the rates in the tables are relative, e.g.:

TO HAMBURG STATION

FROM STATION	AT WEIGHT	FOR CLASSES OF GOODS				
		II-III	IV-V	VI	VII	VIII-IX
Tetschen	piecemeal	4190				
	less than 5 T	3840				
	up to 10 T	3440				
	less than 15 T	3240	3030	2710	2520	2350
	&c					
Aussig						

For cargo above 15 T, the weight grades are differentiated by fees roughly 6%, 18%, 30% of the basic freightage. The horizontal grading, i.e., the spread of the individual classes, between the neighboring classes is 6%, 10%, 7%, and 7%. Thus, Class II is 38% more expensive than Class IX.

For the transportation between places which are not quoted in the tabulations, the freightage is calculated at the closest higher(e.g., from Loboschitz to Riesy, the freightage is calculated under the line Melnik-Torgay, etc).

The differentiation of freightage from Aussig, Melnik, and Holeschowitz to Hamburg is expressed, contrary to the rates from Tetschen(e.g., for II. Class express goods) in percents of the Tetschen rates at fees 3%, 13% and 25%, thus almost exactly by the distances which are at the ratio 3%, 15% and 23% of the Tetschen-Hamburg distance.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

The rates for transportation by downstream towage do not have a similar differentiation, and they are divided into rates for piecemeal cargo and for cargo above 5 tons. Their

* * *p.117) spread is equal in given relation as to absolute level in all classes, and it fluctuates from 200 to 240 hellers per 100 Kg. The rates are equal for Tetschen and Aussig.

The rates for upstream transportation are(equally as the fees for bulkiness) strongly under the influence of Hamburg. The rates for express goods are differentiated to 10 tons only as the rates for the transportation of the usual goods by towage, and are distinguished according to delivered weight; for piecemeal cargo from 5, 10,15,30,50,and 100 tons.

The downstream and upstream rates for goods transported in greater amount are the following(the cheapest freightage...Class IX.):

	EXPRESS GOODS	TOWED
downstream	2350	1320
upstream	2800	2100

The substantially cheaper rates for downstream transportation correspond in principle to the substantially lower self-expenses of this transportation.The difference of these rates is the most conspicuous for towage navigation, because the majority of the barges is floating,for a considerable part of the way,by its own weight.

In special cases,differential rates can be also charged. Thus,e.g.,a special contract was concluded with MEITRANS about the export cargoes, transported as collected goods. For collected goods designated for overseas transport from Holeschowitz to Hamburg by motor express ships,a differential rate had been established according to the bulkiness of the goods. Rates are established for non-bulky goods(twice higher measure), for bulky goods whose 1 m^3 weighs 499 to 200 Kg(more than twice the measure), and for very bulky goods whose 1 m^3 weighs less than 200 Kg (more than 5 times the measure). In such transport,it is of course necessary ,at the sale of the goods, also to indicate the dimensions of the individual cargoes.

The rates are quoted in these categories according to the classes of the classified goods of Cz.S.D., namely in four groups:- II -V.class, VI.,VII,.and VIII-Ix,class. The compromise rates are global, they include the dues for direct transfer (not at all by means of interdumping), for the aid of the vessel crew, for the over-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

time work and for the night work, for the readiness of the crew in case of extra people, for calculation, for customs clearance at the border (Czecho-German and in Hamburg), for freightage, surtaxes for bulkiness, draught fee up to 100 cm, for transfer to ferry, for transportation ferry to the storehouse or to the side of the seagoing vessel, for aid of the ship's crew at unloading, for necessary overtime work and work of extra people, extra pay for delivery in the early tour.

In the rates, the delay fee of railroad cars is not included, neither is the delay fee of the Elba barges and ferries, for return transport of the fastener, for the canvasses and protecting

* * *p.118) devices, for weighing, for control of weight, for classification, fee for the transfer from the ferry to the maritime ship or storehouse.

The rate also reimburses for the classification and the distribution of the cargo by centers, if they are not more than five and if the goods are delivered from one center to one place. The acts of extras are given a special account.

The surtaxes at draughts lower than 100 cm, are determined in this compromise by the current rate scale; the adventage is that one pays only at draughts less than 100 cm. The shipping firm is however authorized to step back from the agreement, as soon as the highest officially permissible draught sinks below 100 cm. If the firm proclaims the vessel operation closed, the cargo agreement will lose its validity whatever the water level might be.

G R E A T D A M A G E (Average)

* * * * * * * * * * * * * * *

From the maritime law the institution of the g r e a t d a m a g e (average) has been taken over by inland navigation, which differs so that the damages and the expenses exerted on removing the joint danger from vessel and cargo is distributed on vessel and cargo in the ratio of their value (so-called shar value). The distribution of shares is called the d e s p a c h e. Great damages are also the damages to vessels or goods and the expenses which the commander of the ship deliberately caused for rescuing the ship and the cargo from danger. In such damages however the dispersing and the dissipation of freely loaded goods at time of relief, or the into-the-water discharge of the goods which had caught fire by themselves is not included.

Great damages are not jointly the vessel and the total cargo transported in it. To a distribution of shares however, the great damage comes then only when the goods as well as the vessel had been at least partly accurately protected. If, from the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

damaged barge which may not progress on its way, the goods had to be completely unloaded, the crashing partnership of vessl and goods ends with the moment of unloading the subsequent parts of the cargo. Further expenditure with transportation, and the damages arising at it are not counted to the great damage.

Normal relief does not count for great damage. If however the vessel had been intentionally grounded so that it did not sink, or if it was purposely sunk so that a fire-destruction of the vessel and goods was prevented, both the damages caused by these measures abd the damages and expenses with loosening and lifting the vessel belong to great damage. If the vessel submerged, without its being for the protection of vessel and goods, only the expenses and the damages arising at the lifting of the goods and of the vessel belong to the great damage, even if it happened to one compartment.

To the great damage belong also the expenses arising so that further help is provided for the crew or the tugboat to remove the danger resulting, e.g., by the movement of ice, etc. If the vessel, after departure for the journey, had to knock up higher or lower situated winter ports on account of danger of freezing, also the expenses for sailing to the port and sailing out as well as the portal fees belong to the great damage,

* * *P.119) also the towage fee, the wages for guarding the vessel till the opening of navigation, and, had a relief be necessary, also the rent for the relieving vessel, and for the damages resulting at the relief.

The goods which are unloaded in the winter habor, though this port is not the original port of destination for it, contributes to the great damage so as if it (cargo) had stayed in the vessel up to the time of leaving the harbor. If however the vessel is wholly unloaded in this port, only the expenses arising up to the time of full unloading of the vessel belong to the great damage.

FIGURE 18: Emergency work at damage of a barge.

To the great damage are also counted the expenses for the appraisal of the damages and for the elaboration of the distribution of damages (despache).

The calculation of the amount of damages and of the amount of the share value is ruled by regulations valid for a great maritime damage (York-Antverpen Rule). These regulations concern especially the calculating prices of the different parts of the vessel's outfit with regard to their age. At the appraisal of the share value of goods the freightage is included in the calculation. Losses and damages on goods on

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

which no bill of lading or cargo list was made out, or which were not included in the loading list or in the book of expenses,are not calculated unless it happened by omission(it is not valid of course for operation by portal vessels),and by appraisal which as such had not been noted by the transporter.

Every one of the interested parties is obliged to submit the documents for the damage-distribution

* * *p.120) (may it be even the shipping firm) required, such as loading list and bill of lading,and the invoices. If they do not answer within 14 days after the written invitation,the share established according to the best knowledge will be calculated into the despache, thus,binding for the whole. For the entire conduct, the transportational terms and regulations of the "Agreement on the arrangement of the great damage" are valid, closed between the shipping firm and the insurance company,resp.companies. The mortgage right which all participants of the great damage have on the goods is vindicated as a rule by the shipping firm,by collecting an advance on the share of the great damage; these advances are cleared at the delivery of the despache(share of expenses).If a share is not collected,the firm is entitled to store the goods at a public storehouse,occasionally even to sell it.

Should the goods have been insured at the shipping firm,no advance is issued because the share in the great damage is valid according to the insuring terms of the firm, resp.it is collected at the insurance company where the risk had been covered.

COOPERATION OF THE SHIPPING FIRMS.

* * * * * * * * * * * * * * * * * * * *

Inland navigation may be organized on the territorial principle,i.e. which means that in a certain district,inland navigation is carried out by one firm only.Such an arrangement has a great advantage which comes from a uniform guidance of the entire park of river vessels and from a uniform,central survey of the demands for transportation.This principle is followed as a rule by the Soviet Union,and if somewhere more firms are organized for one district,e.g.,on the Volga,this is on account of the size of transportation work of the Volga fleet which requires specialization. In addition to a firm for passenger transport,there is therefore a firm organized for the transport of naphtha,so that the basic idea of territorial exclusiveness is not broken up,but deepened.

In our country,the majority of transportation is in connection with foreign countries,and hence,vessels belonging to different states come together on one

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

stream,and sometimes,as on the Elba and the Duna, also belonging to different world camps(Western Germany,Jugoslavia).The lack of a survey on the displacement of vessel park and on the distribution of demands on river transportation leads necessarily to an operation with large reserves,with large empty runs which rather leads to suppression of a close cooperation of the firms working in the meantime independently.

The ways of this cooperation are the most variegated,from the contract for mutual technical aid at crashes,etc.,to a joint tariff,indeed to a joint management of the entire vessel park,or to formation of a special joint firm.Sometimes the substratum is divided in ratio of the vessel park,which adds to the stability of tariffs so long as the firm works under terms of mutual competition.

With the formation of the people's democracies in the German Democratic Republic,in Poland,Hungary,Romania,and in Bulgaria,and/by the fact that the Soviet Union * * *p.121) became a riverside state of the Duna,political suggestions arose for a new and deeper way of cooperation,leading to a better use of the vessel park,to reduction of administrative expenses,and to a saving of otherwise necessary investments in further construction.

On the Elba and on the Branibory waterways facilities are given for better cooperation by mutual exchange of information,of freight and cooperation with the management of the vessel park.These possibilities are much higher at the navigation on the Odera,because ,by correct organization of transportation, the Polish,Czechoslovakian and German navigations may exploit much better the individual vessel parks.A cooperation of Polish and Czechoslovakian navigations is already given so that Czechoslovakia has very little downstream load,whereas Poland has coal transported in the direction from the Silesian coal fields to Stettin in a much greater amount than may be transported on the Odera.In contrast,Czechoslovakia has from Stettin much more load than what she may transport on the Odera,but the Polish upstream transportation is very slight.By the combination of both substrates,a good ambi-directional equilibrium is obtained which is shown by a very good transportation record of the Polish and of our Odera navigation,inspite of the fact that ovvasionally there was insufficient water and shorter shipping period.

The greatest possibilities and the greatest difficulties of such universal arrangement for the economization of navigation are shown,of course,on the Duna. The length of the navigable stream,the vastness of the foreign trade relations,the remarkable seasonality of the majority of husbandry along the Duna,their parallel but

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

individually different development, this all, connected with the limitations of border crossing, make the administration of the Duna navigation as one integer unit very difficult. Inspite of this, considerable advances have been made there already, both in the economization of transportation relations, and in cooperation of the individual firms. Meanwhile, this had been solved by bilateral agreements of different contents which gradually deepen as they prove to be true.

The more detailed, the more accurate and bilaterally the more just are these agreements, the more permanent and the more successful they are. We quote an example how a partial factor had been arranged, namely, assistance by traction power:

If it comes to mutual help by traction power, the work performance is expressed in virtual(pre-counted) ton-kilometers. These are balanced out as possible by mutual exchange of work performance in nature. For a better understanding, the so-called kilats, i.e., 1000 ton-kilometers, are used for paying off, estimated by the established method. The virtual ton-kilometers are calculated from the adjusted load and the adjusted distance. The load is determined so that, to the cargo on the barges, their equivalent is added, corresponding to the run's drag of the empty barge(or of a vessel with self-propulsion, of the tugboat). This equivalent is determined by measuring, and for similar types of vessels by calculation; the equivalents are arranged in a table in which they are looked up at the estimation of ton-kilometers.

The distance is adjusted according to the fact on which section of the Duna and

* * *p.122)in which direction, downstream or upstream, was the load towed. According to difficulty of towage, each section ---on the Duna there are 9 established--- is evaluated by a coefficient by which the exact kilometers are multiplied in order to get the virtual kilometers; these Km-s, multiplied by the load(i.e., the freight and the equivalent of the vessel) give the virtual TKm-s. Beside this, the estimated virtual TKm-s are adjusted by further %-ual surtaxes according to the year's season.

For work in Dec. and Jan., a 35% surtax is calculated, in Nov. and Febr. 25%, in Oct. and March 15%. The rest of the months are without surtaxes. The coefficients by which the exactly covered distances are changed into virtual distances, fluctuate between 1 and 12, with upstream navigation, and between 1.16 and 0.43 with downstream navigation. The accurately covered distance is then sometimes also reduced(if the coefficient is less than the unit.)

For the estimation of the virtual TKm-s or kilats(which is the unit 1000

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

times larger) the entire Duna Line, between Regensburg and Sulina, is divided into the following sections:

DENOMINATION OF SECTION	KILOMETERS FROM SULINA
Regensburg - Passau	2379 - 2226
Passau - Gönyü	2226 - 1791
Gönyü - Moldova	1791 - 1049
Moldova - Vodice	1049 - 951
Vodice C_anal - Guravai	951 - 941
Old Vodice way - Guravai	951 - 941
Guravai - Kladovo	941 - 934
Kladovo - Galaţi	934 - 151
Galaţi - Sulina	151 - 0

At the agreements about tariff cooperation, a joint tariff was published, or two independent but similar tariffs. Besides, the procedure of discussing special commercial cases between the two firms is established. It is determined who will carry the allowed reduction and when are both sides carrying it, furthermore by what method to proceed at the arrangement of the substrate, how are liquidated the balances which in the near future obviously will not be settled by selling the goods or by carrying out the works, and of many other things.

The administrative cooperation also improves, beginning with the care of enabling the purchase of food articles by the crew of the vessel of the other State, to the acceptance of the customs clearance, the paying-out of advances on wages, invoicing, cashing in of the transportation, and so on.

In this connection we have still to mention one purely socialistic form of cooperation of firms. This is the exchange of experience, organized and transferred by such best methods as by broadcasting of the workers of one firm to the working staff of the other firm. Such exchanges, even though between firms of the same state only, yield a vast number of suggestions, how to improve the work at the new and at the old working places. Such contact also is the best basis for an inter-firm socialistic competition.

* * *p.123)

COOPERATION OF INLAND NAVIGATION WITH THE OTHER TRANSPORTATION BRANCHES.

1) Cooperation of Inland Navigation with Railroad and Highway Transportation.

The cooperation of the various branches of transportation, realized so that for every branch a certain part of the transportation work is allotted in which their priorities may be of the best use, is a problem which a capitalistic economy, i.e., the coordination of transportation solves. The capitalistic economy however cannot solve

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

this problem in regard to private ownerships of the manufacturing and transportational means. In the Soviet Union, this cooperation is solved in an exemplary manner by a plan which is aided by all the rest of the expedients, especially by tariff. According to this pattern, the people's democracies also establish their transportational plans so that all advantages be gained from inland navigation which, by its nature, this navigation may yield to the transportation of goods. It is impossible of course to undertake everything mechanically; partly, our economy is not yet so acquainted with the methods and is not yet penetrated by planning discipline, partly the inland navigation in our country is orientated more to foreign countries, and finally, even the disposition of the substrate is not always in our hands.

A detailed examination of the Soviet economies indicates that at the big rivers self-expenses of transportation may be obtained by one fourth to one hald lower (especially with transportation of mineral oil) than at railroad transportation. Besides, even with equal self-expenses of transportation, river navigation helps to overcome the large and steadily growing transportation works.

Therefore, certain large inter-district shiftings of raw material and of industrial products are wholly or partly planned for water transportation, and the keeping of such disposition is also necessitated by tariff provisions on the railroads which, in the period of open navigation (in the shipping season) in areas which can be reached by navigation, establish sensible surtaxes upon the normal tariff freightage.

From two relatively independent transportation systems, the railroad and the water transportation, the Soviet five-year plan produced a single system of transportation, not only by organizational and economical, but also by technical devices. To be sure, some large inland ports of Czarist Russia did not have railroad connections at all, this all had been rectified under the Soviet government.

In our country, and in the European people's democracies, much has still to be corrected in this respect before the later remainder of the earlier discord will disappear. The Czechoslovakian navigation does never feel the struggle of Czechoslovakian railroads for the substrate so directly and keenly as it had been felt by the navigation in those countries where the waterways ran parallell with the railroads. It can be said

* * *p.124) that, to a certain extent, the interest of our railroads ended at the Czechoslovakian borders, and if the ships carried away goods from Kozel, Komárom, Tetschen, or Aussig, or if they brought it then in, the railroad was willing to cooperate. In

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

the experience of the railroad, the navigation, especially on the Elba and Odera, dominated entirely. Each ton of goods, destinated to transportation on the Odera or to transportation on the Odera to Czechoslovakia, had to be transported by railroads. Besides, on the Vltava and on the Elba, the transfer of goods, the cranes and the portal tracks were also in the hand of the railroads. The struggle of the German and other railroads against navigation frequently had, of course, an influence upon our navigation, too, e.g. so that the rates for boards to Hamburg had been almost the same as to Laube (with addition of the tranfers); for the subsequent navigation nothing was left already from the rate, and it was impossible to go free of charge. Even in our country, the mutual relations of the State routes and of the shipping concerns, on which the State collaborated financially to a great extent, were not without contest. Witnesses of this are all the unused portal equipments at Melnik, at its time built as a Czech port against the German ports of Northern Bohemia (Aussig, Tetschen). "Advantageous" tariff politics of the ČSD. have supported the Northern Bohemian ports, at the detriment of Holeschowitz and Melnik, because the goods designated to it have travelled along the lines of ČSD longer distances, and thus it brought higher income. This politics penetrated with special transfer tariffs.

Concerning the international transit transportation, in an effort to attract for its line the large transports between the Duna-side and the Northern and Baltic Sea (copying also the German imperial route which strived to make for Wien and the Northern German ports the same what the ČSD was doing for Pozsony and Stettin or Hamburg) the ČSD offered considerable transit discount, and came also to setting up direct tariffs for a combined transportation by river/railroad/river, under the mark IOD. For a certain cargo special united transportation receipts were also valid. Especially grain, leguminous plants, dried plums, or plum-jam were transported.

In a planned economy, it has been necessary firts of all to delimit the responsibility, and hence the transfer of goods was entrusted to the shipping concerns themselves. The operational planning of foreign transportation guarantees full use of waterways so long as we dispose with the substrate, and steps are taken so that, also in a wider international range, individual shipping and railroad firms of the people's democracies would be taken for members of a united transportation system which must use the most economical ways. This effort is successful especially in relation to Poland and between the Duna-side countries of the people's democracies. On the Elba, a substrate is being transported which is predominantly, either by destination or by origin,

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

overseas, and in the capitalistic trade it is impossible to plan in advance and to eliminate the antagonism proper to them. But they can use elastic tariffal and transportation politics to the further reduction of transportation expenses of our goods.

Good cooperation of the railroad with navigation is shown not only so that ***p.125) the railroad does not accept transporation which has to be carried by navigation,but also in the manner how it receives the goods carried to river harbors from where they have to be carried away further inland.Particularly important is here the harboring of railroad cars for loading.If the cars are not in time and in sufficient number at the transfer equipment,EITHER the transfer must be cancelled,whereby we lower the vessel performance(the delay in the port grows and the period which can be devoted to the run will sink), and the use of the cranes and other transfer equipment, OR the transfer is continued,but the unloaded goods are temporarily stored in open air or in a storehouse. This causes a slowing of the circulation of goods,an added burden at the unloading place, occupation of the unloading space, and a superfluous and secong double transfer, which moreover will also reduce the performance of the entire port. The cranes must transfer twice the same amount of tons of goods, e.g.,ore:- once at unloading from the barge to placement in the warehouse, and a second time at loading on the railroad cars from the storage.

If after longer period an insufficient number of railroad cars is harbored for loading in the harbor, the temporary storages may become so large that it may more difficult, indeed it may even threaten the further operation of the port(if e.g.,unloaded bulk goods must be dumped even on the portal tracks if the areas for storage are found already filled).

The cooperation of navigation with highway transportation on the whole is not manifested in such a close connection as with railroad transportation. The highway transportation as a rule brings on and carries off so-called piecemeal,thus non-bulky goods,which in the ports are received through the storage(they are gathered for concentrated loadings,or they are unloaded from the barge directly to the storage and from there it is expedited). The effort is of course so directed that even here,double transfers should be as few as possible,and that the goods be directly loaded from the automobiles into the barges and vice versa.For this,a properly organized and functioning dispatcher service is needed. The formation of a united transit tariff for the railroad transportation between the U.S.S.R. and the countries of the people's democracies would also give a task for the navigation of all people's democracies to tie up by suitable

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

transportation and tariff measures to such mutual cooperation. The required transport regulation and espscially the elaboration of a united transportation document is in preparation.For the navigation also, the leading idea is the preservation of the principle of the MÜS, i.e., of the so-called Warszawa Agreement about International Railroad Transportation.

2. Cooperation of Maritime and River Navigations.

Our main waterways end in seas, the North Sea,Baltic Sea and Black Sea. The inland navigation,however,meets maritime navigation still before the proper mouth of the rivers into the sea; maritime navigation detours into the interior of the land, since as a rule suitable ports can be there constructed cheaper for it. Thus,on the Elba there is the maritime port of Hamburg, on the Odera Stettin, on the Duna Galaţi and Braila, which all are situated about 100 Km above the mouth of these rivers into the sea.

* * *p.126) Such mixed ports for maritime and river navigations have great advantage for the transportation of goods, which are greater than their operational disadvantages arising from the heavy traffic of the maritime,river and portal vessels,and from the large demands for water surface to set aside,to fasten,and to operate the reserve,etc. of the river vessels, to compose and to dissolve towages,etc.

The economically most considerable advantage of a mixed port is the possibility of direct transfer between maritime and inland vessels. Such transfer,carried out without the help of riverside equipment, either by own cranes(lifting tools) of the maritime vessels or by floating cranes,elevators,and the like, is called direct transfer.

We mention the chief rules of the transfer of goods to maritime vessel or from such a vessel. The leading idea us to speed up the transfer,and thereby to shorten the period ofstay of the vessel in the harbor so that the vessel might again depart as rapidly as possible or, if it is tied to a strict running schedule and it has a time reserve in it,so that the vessel could carry out smaller repairs,could give leave to the crew,etc. The bulk goods are unloaded either directly into portal railroad cars,into river vessels, on the ground of the employing firm or in the open(coal,ore),occasionally into warehouses(grains,potassium salts,flour,southern fruits,and the like). The mineral oil is pumped into basins in the ground.

It is the same with loading. With loading,e.g., of coal, we frequently see that the goods are loaded on the maritime ship both from waggons and barges,as well as from storage dumps. The formation of storage dumps is here required partly for the

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

need to speed up the loading so that the crane's paws pick up a "full" load and there is no need to accurately adjust the crane's operation to relatively small railroad cars, partly in regard to balancing the time gap between the running up of barges or waggons, and the preparedness of vessels for loading. In order that the barges and cars should not stagnate, their content is unloaded on a storage dumping place and as a rule the so caused necessary double transfer(car/dumping, dumping place/vessel) is cheaper than the delay fee which would be paid for waiting of the barge or car. The tendency to prevent the pating of a delay fee is much greater at maritime vessel where the delay fee occasionally runs into tens of thousands of Czech crowns per day. Therefore, goods which for further expediting must be classified, weighed, marked, etc., roughly taken the piece-meal goods, are directly unloaded from the vessel to the storehouse and vice versa. Piecemeal goods designated for the ship are stored, and they are collected in one storehouse, from where then the vessel is loaded, fluently and as effectively as possible. The vessel personnel, the comptroller and the stevedores do not have then to bother what to do with the thousands of senders or receivers or with the hundreds of forwarding agents, but only with a permanent, precise and trustworthy leadership and the personnel of the portal warehouse. They are also adapted for manipulations of the papers.

According to the way of transfer works, we mention a few cases at maritime vessels in connection of maritime and river transportation.

The FIRST of this is delivery by the barge to the side of the ship:- for reason of saving operation,

* * *p.127) it is carried out with a cargo larger than 50 T only. For delivery by a barge, the permission of the portal administration must be obtained which cares that by the non-arranged accumulation of vessels, the shipping route be not narrowed and that the vessel should not wait unnecessarily for the transfer.

Sometimes, such cargo is delivered not by a barge but by portal ferries, to which the cargo is transfered. It is the SECOND way that is used especially when a barge had to deliver some of the larger cargoes at different places, or when delivery cannot be made without delay and a barge would not be able to keep on waiting. From this the pertinent cargo is transferred to a ferry whose waiting then does not cause such difficulties either from an operational point of view or financially.

The THIRD way is a delivery through the storage house, where the goods had arrived EITHER the same way as to the side of the vessel by barge and/or ferry, thus

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

at the water side, OR with a conveyance, automobile or railroad at the land side. There is a busy life between the specialized storehouses by land and by water; it often happens that a cargo arrives by barge with unloading to the storehouse of a river shipping concern, and from there it is transported on cars to the storehouse of a maritime line.

Small parcels are almost always delivered through the storehouse. That however, with one or two small boxes, one should not drive along the port by automobile transportation devices, in the larger ports the carriage of piecemeal cargo is organized to the storehouse at which as a rule the maritime liners are loaded by the rather reasonable method after the pattern of a collection service.

As a rule, one of the portal storehouses, with good connection to the water, railroad and highway communications, is selected as the collecting and distributing storehouse. There, the piecemeal cargoes accumulate so long as there is no other economical method exceptionally. There, they arrive frequently in collecting waggons of the forewarding agents, in direct automobile trains, by ferry from other storehouses on the water and on land, with barges with piecemeal goods and ferries from the incoming inland vessels. There, the piecemeal parcels are classified according to the place of loading, and they are distributed into new collected cargoes--- either for the railroad cars, automobiles and vehicles, or for the portal ferries from the collecting storehouses into the storehouses hired for certain shipping agencies or designated for expediting in definite directions.

The arrangement of additional intermediate links, i.e., storehouses, to cooperation of river and maritime navigation has then the function of rationalization and balancing. By experience, the circulation of both river and maritime vessels is thereby speeded up. There where inter-dumping places or manipulating storehouses are not available, for the arrival of the maritime vessel loading space of river navigation must be prepared almost equal to the amount of goods which the maritime vessel imported, and, similarly to it, to get ready the export goods in an additional number of barges so that they could be quickly loaded. If there are dumping places for disposition, goods brought from the inland are unloaded at the dumping place, so that the empty stowage space can be utilized for imported goods. With good organization and with joint temporary terminals the use of loading space is of course still better since it is not always necessary to wait with the unloaded barge for the arrival of the maritime vessel, but it may be used right away otherwise, and the barges begin to gather up

* * *p.128)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

STAT

just before the arrival of the maritime ship.

Special cases of transfer between the river and the maritime navigation are the heavy pieces of a weight up to 300 T.There are indeed special forwarding agencies whose vessels are constructed with transferring equipment for heavy pieces but as a rule they are transferred by a portal crane of great carrying capacity which is either stabilized,or floating, and frequently it also serves the needs of the dockyard. To such crane then comes the ship,which has imported the heavy pieces, and after its elevation and the departure of the first ship,the second vessel comes then,too.If the matter could be arranged in time so that both vessels would go under the crane at the same time, the heavy pieces could be transferred without intermediary dumping on the shore. Beside theevident advantage of shortening the operation period of the crane, new (sometimes made more difficult and always liable) fastening of the heavy difficult load to the hook of the crane will become here unnecessary.

The firms of river navigation have naturally the highest interest in joint and quick information about the movements of maritime vessels,about the time of their arrivals to the port,the place where they will be loaded and unloaded,and about the supposed time of delay.

For the delivery and for the pickup of goods by barge(motor barge,cargo steamer) or ferries,the time of acceptance(transfer) of the goods must be accurately agreed upon. Otherwise considerable expenditures arise not only for waiting,but also as a rule for the useless harboring of the barge and for repeated local towage fees (portal towage fees).

The merchandise is accompanied by the pertinent written order,bill,presentation of papers,etc.(at least with one copy) which is acknowledged --- if the goods were delivered to the side of the ship --- by an officer designated by the captain,otherwise the chief of the storehouse acknowledges it. At the bottom of such acknowledged order(copy) the representative of the ship puts his signature, either the agent or the captain, corresponding to a "connaissement"(marine bill of lading).Notes which had not been made on these receipts may not be supplementarily recorded even on the bill of lading.

The control of the transferred amount of piecemeal goods and of the bulk goods is carried out,in the capitalistic ports as a rule, by the representative of a neutral controlling firm, by the so-called tallyman. His finding is valid equally against the ship as against the deliverer.At some methods of transfer of bulk goods, they start the use of the data of automatic balances(with grain transferred by eleva-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

tor) or of the crane's balance. The data of the cargo railroad-lists or of the bill of lading of river navigation may be also taken as correct. Should the sender wish that the transporter should corroborate for him the weight also, then, beside the automatic and the crane's balance, the bridge and the decimal balances are also used on which as a rule some of the pieces are always weighed singly. The number of pieces is ascertained by the capacity of the crane and by means of transferring devices:- how much goes into one funicular snare of the crane, or upon one support, or into one lifting of the crane.

Particularly valuable type of goods (e.g., terpentine) are sometimes re - ceived according to individual pieces of cargo and by the number, and these details are also reported by the weighing lists.

* * *p.129) It is not for reason of commercial technic alone that the same proprietor of goods may ship away a definite number of pieces directly from the port of destination (from the storehouse in the port of destination) to his purchasers (e.g., barrels) and may charge the originally ascertained amount, but also for the purpose that, also at shrinkage and loss, e.g., by springing, sprinkling and so on, he may vindicate at the insurance company claims for compensation of damages if the goods had been insured under the term "every piece one series".

For the guidance of the shipping firm, the arrivals and departures of the maritime vessels are very important. Their cargo agreement does not talk indeed expressedly about catching a certain steamer but there is still an endeavour of all participants that the considered connection be met with and that the goods be received smoothly.

If their is danger that a downstream floating barge would arrive at the maritime port with delay, then on the river line provision is made that the barge's run be speeded up. If it concerns a barge floating by its own weight, some of the automotive vessels which come for it and with great probability will outride it, would get the order for towage of the barge, or for its exchange for the barge with which they arrive. If there is no such chance, they reinforce it on the contrary from the port with some of the portal steamers (according to the circumstances with small draught), so that the barge is towed. If the barge is already in towage, the commander of the tugboating vessel, the captain, gets an order for prolongation of the running period, for a run without stops at night, for removal of a part of the towage (if it is excessively large and would hinder, e.g., a night run or the substantial increase of speed).

The registry of the movement of river vessels on long sectional tracts

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

is meanwhile not satisfactorily solves,at least not in our country.Technically,automotive vessels with shortwave transmitters may be built, by which these vessels report at agreed times not only their position but also about the vessels which the automotive vessel met or passed by and where.Necessary consideration for the political situation nowadays impedes such an organization of information in our country at this time.

Therefore,the normal public land outfit,the mail and the telephone are being used only.It is directed that the leader of a vessel should report by telephone or by throwing his report into the mailbox while driving through a certain place; besides,many other data may be also mentioned on the report,e.g.,about the direction and strength of the wind,the movement of the ice, of the fog,about the type or meeting of other vessels,etc. Frequently at certain places important for the operation,a watchtower is built which follows the passing vessel and regularly serves for it, either by mail or by telephone, the report of the next dispositional station.The watchtower serves as a rule so that this function is entrusted to a reliable employee, who is taking already old-age annuity and is living near the waterway, or is manager of a tavern,regularly a school-attended seafarer,or other honest person.

From these data on the movement of vessels,the dispositional station establishes its own information,and arranges its operation according to the given situation. That such reliable

* * *p.130) reporting is particularly important for a vessel in direction to maritime ports,is obvious in regard to the strict estimation of the time by the maritime ships.

SUMMARY OF THE MOST IMPORTANT WATERWAYS OF THE PEOPLE'S DEMOCRATIC STATES

* *

1.Union of Soviet Socialistic Republics.

The Soviet Union has the greatest water network of the world and the greatest network of waterways. Its predominantly plain territory makes possible the origin of freely flowing large rivers and the connection of the individual river systems between themselves with canals. After the finishing of the Volga-Don Canal of V.I.Lenin, a net of waterways is connecting the European portion of the Soviet Union with 5 seas: Baltic,White,Caspian,Azovian,and Black.

For a comparison we mention that the longest European river is the Volga in the first place,and secondly the Duna.All further places up to the ninth,where the Rhein is, are taken by rivers of the U.S.S.R. In the Asian portion of the U.S.S.R.

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

there are still more powerful great rivers, as indicated in the following tabulation:

Western Dvina	1003	Oka	1261	Jenissei	4011
Northern Dvina	1255	Ural	2327	Angara	2048
Vyčegda	1105	Kura	1279	Tunguzka N.	2699
Pečora	1647	Amu-Darja	2512	Lena	4600
Dnjepr	2149	Syr-Darja	2865	Aldan	1867
Dnjestr	1358	Ob with Irtyš	5106	Viljuj	2112
Don	1808	Irtyš	3712	Klyma	1787
Volga	3700	Tobol	1291	Amur with Argun	4478
Kama	1820	Išim	1792	Zeja	1159

The rivers flowing into the Baltic Sea and the Black Sea, the same way as the Volga and the Ural, are distinguished by considerable fluctuation of water level (except the Neva). With springtime thawings for instance the Volga rises up to 14 m. The freezing lasts from 90 to 120 days. The rivers flowing into the Arctic Ocean freeze for 200 days(at the upper streams) and at the time of thawing they overflow their banks at great extent. The Amur, as the river of the monsun type, infrequently suffers by the fluctuation of its water-level, so that it is sometimes only 70 cm in depth, while at time of the summer rains its depth is enlarged up to about 14 m.

* * * p.131) In the following tabulation we quote the length of the navigable streams for vessels, according to the individual river systems(16):

FOOTNOTE 16: HROMÁDKA Jan: Geography of the U.S.S.R. Pozsony, Slovak Academy of Sciences and Arts, 1947.

* * - - - - - - - - - - - - - - -

Volga	17,700 Km	Onjega	300 Km
North Dvina	5,400 Km	Ob	17,000 Km
Dnjepr	5,800 Km	Jenissei	8,400 Km
Njewa(& lake)	2300 Km	Lena	9,100 Km
Pečora	1,900 Km	Amur	8,300 Km
	Don 2,100 Km.		

On the whole, the well navigable rivers make about 110 000 Km, for smaller vessels additional 100 000 Km.

Meanwhile as to the network of waterways of the European portion of the U.S.S.R., it is relatively easily formed by connection of the upper runs of the rivers originating near each other. The rivers of western and central Siberia are parallel and without transverse connection. Eastern Siberia is mountainous and its single large river is the Amur.

According to prewar statistics, they transported on water 46% of goods on the Volga, 17% on the Njeva, 17% on the northern rivers of the European portion, 10% on the Don and Dnjepr, 7% on Siberian rivers. Today the ratio of transportation on the Siberian and other rivers of the Asian portion of Russia has still to advance, but the superiority of transportation on the Volga has been established. The Volga connects the northern forestry districts with the central grain-growing districts, and the sou-

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

thern naphtha districts. Beside timber, grain and naphtha, The Volga also transports fish, salt, metals, and ores. On the Northern Dvina, timber is transported to Archangelsk, on the Dnjepr timber and grain, the same also on the Siberian rivers of Ob, Irtys and Jenissei.

Among the most important improvements of the streams, before the constructions of Communism, are the swelling of water of the Dnjepr above its threshold at the construction of the hydro-electric plant at Záporozí, the White Sea - Baltic Canal of J.V.Stalin, the Moskva-Volga Canal. Among the constructions of communism for navigation the most important are the Volga-Don Canal of V.I.Lenin, the Great Turkmenistan Canal, and further, the improvement of the navigability of the Volga, Don and of the other rivers by building dams and hydroelectric plants. There is also consideration of a connection of the Volga with the Ob by use of atomic energy.

2) Poland.

The Vistula, the longest river, 1125 Km, is not well improved for navigation. The most important is the Odera, navigable up to Kozel, where it connects with the Hlivicky Canal. On its canalized tract between Kozel

K *p.132)

and Rendzin, the Odera allows navigation for barges, upto a gross tonnage of 600 T. Important are its connections to the west through the water network of the German Democratic Republic as well as to the east on the Varta and Neisse, and by the Bydhost Canal to the Vistula. With the help of the right-bank affluent of the Vistula, the Bug, a connection is created with the waterways of the Soviet Union. The Polish rivers freeze for 60-80 days. At the mouth of the Odera is the maritime port of Stettin. The Vistula runs into the sea at Danzig (Gdansk). On the Odera, coal is transported downstream, and imported ores upstream.

3.) Hungary.

Through its lowland pass, from north to south, the Duna and the Tisza which runs into the Duna at Jugoslavian territory. Cross connection between the Tisza and Duna is secured by a 110 Km long constructed canal on the right bank. The most important port is Budapest. See also the extract of kilometer readings of the Duna.

4.) Romania.

Romania is situated at the lower course of the Duna which is also navigable for maritime ships at a length of 150 Km upstream to Galaţi. Because the maintenance of the navigability of the Sulina branch in the Duna delta is made difficult, the Cernavoda-Konstanza Canal will be built which has significance for the improving of

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

agriculture, too.

The main ports are Braila, Galaţi for the transportation of grain and timber, Giurgiu for naphtha.

6. Albania.

It has no waterway.

(7. German Democratic Republic)
5. Bulgaria.

In Bulgaria, the single waterway is the Duna, with its main ports at Russe, Lom, and Vidin. Through Russe the load goes to the Bulgarian Black-Sea ports of Burgas and Stalin.

7. German Democratic Republic.

From the eastern border, which is partly formed by the navigable Odera, to the Elba with the Saale, the German Republic of Democracy is interwoven with a network of waterways of different capacity. Furthermore, on the west the Mid-German Canal goes to the Weser and to the Rhein. With France, a connection is by the left-bank affluents of the Rhein, and canals.

The most important river is the Elba, running into the Northern Sea below Hamburg.

* * *p.133) The left affluent of the Elba, the Saale, is navigable for barges of gross tonnages up to 500 T and it enables water transportation up to the great industrial emporium of Leipzig. At the right side the Havel(:Havel) flows from Berlin, connected by a canal with the Odera. In the Berlin district the Havel is connected with the Spree which is connected by a canal with the Odera in the direction of the Polish coal fields. Under Magdeburg the Elba is crossed by the Mid-German Canal, emptying into the Havel. From the labyrinth of waterways around Berlin the new Parets-Niederneudorf Canal is important, a shortening detour of the Havel in a section which is flowing through the western area of Berlin, so that the route between the Elba and the Odera is no more subject to American-British control. The largest river port is Berlin and after it Magdeburg.

* * * * * * * * *

* * *p.134) LIST OF USED LITERATURE:

* * * * * * * * * * * * * * *

1/GALICKIJ A.- Planning the socialistic transportation. Praha, Ind.Pub.House, 1951.

2. OBRAZCOV V M & SHAULSKIJ J I : Water, air, highway and city transportation and transportation of industrial products. Praha, Ind.Pub.House, 1952.

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

3. SMOJLOVSKIJ N.I.: traffic in river harbors. Praha, State Pub. Techn. Liter., 1953.

4. XIX. MEETING of the Communist Party of the Soviet Union. Praha, Centr. Comm. of Commun. Party of Czechoslovakia, 1952.

5. TRANSPORTATION in the U.S.S.R. Praha, Indust. Pub. House, 1952.

6. METHODICAL hints and formulary for arrangement of the State Plan of development of the national economy CSR in the year 1954. Praha, Orbis, 1953.

7. NIKOFOROV V.F.: River harbors. Moskva, Recizdat, 1948.

8. SOJUZOV D.A. Organization of work in river navigation. Moskva, Same 1952.

9. ITTENBERG I.A.: Organization and mechanization of transfer work in river transportation. Moskva, Recizdat, 1952.

10. VLASKOV M M & MARJUKOV N.A. Pushingvessels. Moskva, Recizdat, 1951.

11. EXPERIENCES of front workers of a vessel crew. Moskva, Marine Transport, 1949.

12. VITVER J.A.: Economical geography of the world. Praha, Orbis, 1952.

13. HROMÁDKA J. Geography of the U.S.S.R. Pozsony, Slovak Acad. Sc. & Arts, 1947.

14. GRUBER J. Waterways. Praha, Commercial Co. Merkur, 1902.

15. MERIČKA J.: Inland shipping law. Praha, Rev. Czechosl. Shipping Mst, 1934.

16. PATOČKA A.: The Elba as waterway of the Czechoslovakian foreign trade. Sbornik MAP, 1935, sect. 5, Praha, Masaryk Acad. of Work, 1935.

17. TILLINGER. Waterways. Warszawa, Pub. Techn. of Min. of Communication, 1948.

18. TEUBERT O. : Inland navigation. Leipz., W. Engelmann, 1932.

19. PIRATH C.: Basis of transportation economy. Berl., J. Springer, 1934.

20. NAVIGATION Yearbook, 1938-1948. Praha, Czech. Shipping Bur., 1949.

21. REPORTS of the State Statistical Bureau. Praha, 1919 - 1938.

22. VEIKOBORSKY K. Water transportation. Praha, Min. of Transport., 1953.

(See next page for CONTENTS)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5

* * *p.135)

C O N T E N T S
* * * * * * * *

NOTE: Pages refer to translation's pagination.

PREFACE. . . 1

INTRODUCTION. . .3

HISTORICAL DEVELOPMENT of inland navigation . . .5

CZECHOSLOVAKIAN NAVIGATION on the Elba, Odera and Duna . . .7
Elba 7- Firms providing navigation on the Elba 7- Development of shipping regime on the Elba 11- Cargo navigation on the Elba 15- Use of Elba waterway 19 - Odera 20 - Firms of the Odera navigation 20 - Water regime of the Odera 22 - Duna 25 - Importanceof Duna 25 - Czechoslovakian navigation on the Duna 30 - Shipping relations on the Duna 37 - Irrigation and shipping canal Otrokovice-Kohatec 42 -

WATERWAYS . . . 42
Marking of waterways 42 - Water reading 43 - Water telephone 44 - Classification of waterways 44 -

SHIP PARKS . . . 46
General vessels 46 - Vessels for passenger transportation 48 - Ship with self-propulsion for cargo transportation 48 - Cargo barges 49 - Automotive vessels 53 - Exploitation of ship stowage(hold) 57 - Condition of vessel 64 - Registry of vessel 66

PORTS . . . 67
Mechanization of transfer in harbors and transfer places 70 -Conditions of mechanization 70 - Importance of mechanization 70 - Transfer mechanisms 71 - Work of transfer equipment 71-

TIMBER FLOATING and raft navigation . . . 73

ADMINISTRATION and organization of inland navigation . . .76

PLANNING of river navigation(transportation) . . . 78
Arrangement of plan of river navigation 78 - Indices of river navigation 79 - Investment plan 80 - Work plan and work productivity plan 83 - Material supply plan 84 - Method of planning fo river navigation 84 - Foreign transportation plan 98 - Working and wage relations 101 - Wages and payments plan 103 - Self expenses plan 104- Financial plan 109 -

LEGAL setup of inland navigation . . . 109

TARIFF in inland navigation . . . 125
Classification of goods 129 -

GREAT DAMAGE . . . 131

COOPERATION of shipping firms . . .133

COOPERATION of inland navigation with other transportation branches . . . 136
Cooperation of inland navigation with railroad and highway transportation 136 - Cooperation of maritime and river transportation 140 -

SURVEY of most important waterways of People's democratic states . . . 145

LIST OF USED LITERATURE. . . 148

* * *p.136(various technical notes about the printing and publishing of this book.Its composition started on 16 Apr.1953,it was finished on 25 July 1953. Edited in 2000 copies;Price 11.80 Cz.Kr.Printed in Praha).
(etc.)

STAT

Declassified in Part - Sanitized Copy Approved for Release 2012/10/02 : CIA-RDP81-01043R001200170001-5